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USSR Report

HUMAN RESOURCES

No. 82

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LABOR

AUCCTU'S SHALAYEV SPEAKS ON LABOR DISCIPLINE

PM071443 Moscow TRUD in Russian 20 Jan 83 pp 1-2

[Abbreviated account of AUCCTU Chairman S. S. Shalayev's report at the 19th January Fourth AUCCTU Plenum in Moscow]

[Text] This plenum has met in the atmosphere of the great political and labor enthusiasm with which Soviet people have entered the new year of 1983. Our entire country and the progressive world public have just ceremonially celebrated the 60th anniversary of the USSR's formation. The working people of all republics, krays and oblasts greeted their state's glorious jubilee with the successful fulfillment of high socialist pledges, some 148 million people joined in the communist subbotnik devoted to the 60th anniversary of the USSR's formation.

The celebration of the anniversary developed into a demonstration of the triumph of Lenin's nationalities policy. It was a review of the achievements of our country, which in six decades has traveled the great and difficult path from backwardness, calamities and ruin to the might of a modern great power, and showed the whole world the incalculable potential of real socialism.

The report "Sixty Years of the USSR," which Comrade Yu. V. Andropov, general secretary of the CPSU Central Committee, delivered at the joint ceremonial session of the CPSU Central Committee, the USSR Supreme Soviet and the RSFSR Supreme Soviet, generalized the experience of the party and the country in asserting the victorious ideas of proletarian socialist internationalism. The report convincingly showed the organizing role of the party and its Leninist Central Committee and gave a new boost to the Soviet people's fruitful labor in the name of the further flowering of the economy and culture and of strengthening the country's defense might.

Soviet people unanimously approve the party's domestic and foreign policy aimed at further strengthening the economic might of the multinational Soviet socialist state, steadily enhancing the people's well-being and consolidating peace and friendship with all peoples. They resolutely support the new peace initiatives of the party and the Soviet Government, the measures necessary to ensure the country's security and the results of the Prague conference of the Warsaw Pact States' Political Consultative Committee, which accord with mankind's fundamental interests.

The Soviet people fully support the measures being taken by the CPSU Central Committee to mobilize the efforts of the party, the soviets, trade unions, the Komsomol, workers in science, technology and culture and all sections of our society to make better use of the existing major reserves in the national economy and to improve its efficiency.

Our people have entered the new year of the 5-year plan closely rallied around the Communist Party and its Leninist Central Committee and with boundless faith in the party's collective wisdom and its collective leadership.

Advancing new, increasingly large-scale and complex tasks of the country's economic and social development, the CPSU Central Committee attaches tremendous significance to strengthening party, state and labor discipline. The Communist Party has always posed the question of labor discipline with all principledness. V. I. Lenin directly linked the successes of socialist building with the creation and strengthening of labor discipline.

Our country has forged immeasurably far ahead in its development since then. Thanks to the efforts of the party and the entire Soviet people, socialism's gains of worldwide historic significance have been ensured in the USSR, victory was won in the Great Patriotic War, and outstanding successes have been achieved in communist building. The high, conscious socialist discipline of our people and all of Soviet society had an important role in all this.

Strong labor and production discipline is assuming still greater significance under modern conditions. Given the very broad scale of production, complex economic ties and scientific and technical progress, the significance of every hour and every minute of worktime and of the strict observance of the demands and rules of internal order has increased still further.

The attention of party, soviet, economic, trade union and Komsomol organizations was drawn to precisely this circumstance by the CPSU Central Committee, USSR Council of Ministers and AUCCTU resolution "On Further Strengthening Labor Discipline and Reducing Cadre Turnover in the National Economy." Certain positive results have been achieved in the country as a result of implementing the measures outlined by that resolution.

Trade union councils and committees and many trade union organizations have done a great deal to improve the level of organization and effectiveness of socialist competition, to improve working and production conditions, to develop mentorship and schools of communist labor and in exercising control over the elimination of the causes which give rise to high worker cadre turnover and violations of production and labor discipline.

However, if we assess this trade union work in a critical and principled manner, we must admit that this work has been carried out inadequately, Comrade Shalayev pointed out. The AUCCTU, many central trade union committees and councils and local trade union organizations have confined themselves to conducting a brief campaign jointly with economic organs and having made some progress, have ceased working earnestly on implementing the planned measures to eliminate the causes giving rise to violations of labor discipline and on the broad introduction of measures which would increasingly stimulate and encourage honest and conscientious labor.

Despite some reduction in cadre turnover over the past 3 years, its present level must still be considered high. At the same time, cadre turnover even increased in 1981 in a number of ministries--the Ministries of Petroleum Refining and Petrochemical Industry, Coal Industry, Ferrous Metallurgy, Nonferrous Metallurgy and Heavy and Transport Machine Building--at the Main Administration of the Microbiological Industry, and also in construction organizations of the USSR Ministry of Power and Electrification.

Tremendous harm is being done to the national economy by absenteeism, failure to report for work without the management's permission, and also by drunkenness, including in production, by breakdowns and accidents caused by drunkenness, and by other violations of the internal labor order regulations.

This is why strengthening labor and production discipline in all directions remains a very important sociopolitical task.

The CPSU Central Committee November (1982) Plenum pointed up the need to create conditions--economic and organizational--which would encourage qualitative and productive labor, initiative and enterprise and a resolute struggle against any violations of state and labor discipline.

That instruction received the very warm approval of all labor collectives and all Soviet people. Violations of labor discipline arouse their just indignation and protest. Honest and conscientious workers--and these are in the majority--do not wish to tolerate a careless attitude to work, drunkenness or absenteeism near them. It is about just this that they wrote to the AUCCTU, central trade union committees and councils and press organs.

In the course of the workers' meetings to discuss the results of the CPSU Central Committee November Plenum, when speaking of the tasks of fulfilling the strenuous targets for the third year of the 5-year plan, of ways to intensify production and of the utilization of existing reserves, the working people wholly and fully support the party's demands on strengthening labor, production and state discipline and make specific suggestions on how better to stimulate conscientious and highly conscious labor and strengthen the impact on absentees, "drifters," drunkards, embezzlers of public and state property and other violators of socialist discipline and public order. They rightly point out that the role of trade union organizations must be strengthened in this entire struggle for, in realizing their dual task, they are obliged to protect the majority of disciplined and honestly laboring working people from the actions of violators of labor discipline, who harm production, the national economy as a whole and, consequently, all Soviet people.

During the discussion of the results of the CPSU Central Committee November Plenum at the workers' meetings it was particularly emphasized that order in production itself, well-organized labor, an intensive creative atmosphere in the collective, high exactingness toward every worker, intolerance of any violation of labor discipline and an efficiently organized and effective system for encouraging honest, conscientious labor are the main factors in strengthening labor discipline.

It is important to point out that working people themselves include in the concept of discipline not simply the obligation to report for work on time and not waste time but also the need to take a creative approach to the entrusted task, to ensure high labor productivity and quality and a thrifty attitude to equipment and tools and to expend raw materials and supplies economically. And in this matter, in the matter of instilling order in production and strengthening labor discipline, a special role belongs to the labor collectives themselves, to measures of public influence against violators and to specific measures which must be drawn up and implemented by the management and the trade union committee.

Thus, when summing up the competition results every morning at Penza's Zavod imeni M. V. Frunze Production Association, the shop leaders report instances of discipline violation to the association's leadership and the trade union committee. At the end of the day the Prevention Council, which is headed by the general director, investigates the violations which occurred during the day and draws all the necessary conclusions. Every quarter the general director and the chairman of the trade union committee meet with people who have newly been taken on at the association, discuss with them the production and domestic questions which have arisen and ensure that they are resolved. All this creates a good moral climate, which influences a person and enhances his responsibility for his attitude to work and for his conduct in the collective. As a result, turnover and losses of worktime owing to absenteeism have been halved over the past 5 years, and there has been an almost tenfold reduction in the number of violations of the internal order regulations.

Now 80 percent of the violations at the association are investigated in trade union groups and at team meetings or councils.

Definite experience in this direction has been accumulated at a number of enterprises in the Ukraine and in Smolensk, Novosibirsk and certain other oblasts.

However, many enterprises, shops and sections are still noted for disorder in production, for a situation favorable to violators of discipline, for lack of thought in resolving current planning and production organization questions and for inefficiency in eliminating the shortcomings exposed, the speaker emphasized. Downtime and rush work cannot fail to have an adverse effect on labor discipline.

The report cited specific examples of such enterprises and production facilities.

All this indicates that many trade union committees have resigned themselves to violations of labor and production discipline and turned into impartial witnesses where they ought to display genuine principledness and implacability toward shortcomings.

Speaking of the need to strengthen labor discipline, Comrade Shalayev noted the exceptional, irreplaceable role of labor collectives themselves and of their leaders in successfully resolving this very important sociopolitical task.

We must fully utilize the entire very rich arsenal of means and forms of our joint work with economic organs to create in every enterprise an atmosphere of creative, highly productive labor, high conscious discipline and strict order in production and to create everywhere an atmosphere of intolerance toward any manifestations of indiscipline.

The speaker emphasized the importance of widely introducing the team method of organizing and stimulating labor and raising its qualitative level.

The whole country knows well the labor achievements of the 1,000-ton teams in the coal industry. Their successes are the result not only of competent engineering backup and the high level of the workers' professional skill but, above all, of strong labor, executive and technological discipline, an atmosphere of high personal responsibility for the common cause and the desire to help a comrade at any time.

The work experience of such teams is of tremendous value both to the entire national economy and, primarily, to the coal industry itself.

Examples of the high efficiency of the team form, including in the matter of education and strengthening labor discipline, exist also in a number of other sectors. This is why trade union central committees and councils, their middle links and primary trade union organizations must devote the maximum attention to developing the team method of organizing and stimulating labor on the basis of financial autonomy, to extending the rights of team councils and trade union group organizers in the sphere of using incentives and measures of disciplinary and public influence and to enhancing their educational role.

Tremendous significance can and must be attached to the dissemination--closely linked with the broad introduction of the team work method--of the initiative of trade union groups at many enterprises in Leningrad, the Ukraine and Kazakhstan, which have decided to enhance their role in strengthening socialist labor discipline and launched the movement under the slogan "Not one violation of labor discipline or public order in the trade union group."

The further development of the movement for a communist attitude to work must be an equally important direction of our work in the matter of strengthening production, technological and labor discipline. In collectives of communist labor, where people take a very responsible, principled and exacting attitude to the appropriation of knowledge and enhance its educational significance, all production and economic indicators and labor discipline are considerably higher than in other collectives.

Thus, at Tiraspol's S. M. Kirov Casting Machine Plant, which last year was awarded the title of "Enterprise of Communist Labor," losses of work-time and manpower turnover are half the sectorial level. On the results of the all-union socialist competition in honor of the USSR's 60th anniversary the plant collective was awarded the CPSU Central Committee, USSR Council of Ministers, AUCCTU and Komsomol Central Committee Challenge Red Banner. And it is the general opinion that the collective achieves such indicators, above all, as a result of developing a communist attitude to work.

A substantial improvement in working conditions, a reduction in the number of manual jobs, particularly heavy physical jobs, and the lightening of women's work are of great significance for successfully resolving the problem of strengthening labor discipline and reducing cadre turnover in the national economy.

Serious shortcomings in this matter are one of the chief causes of cadre turnover, various deviations from the internal order regulations and violations of production discipline.

Economic and trade union organs have done a great deal recently to improve working conditions and safety. Major measures are being implemented for the retooling of production. During the first 2 years of the current 5-year plan approximately R15 billion was spent on these purposes, and working conditions were improved for 5 million people, including 2 million women. The overall level of industrial injuries and occupational diseases is steadily being lowered. The number of labor collectives working without breakdowns or accidents is increasing.

At the same time, the state of affairs regarding working conditions and labor safety remains unfavorable at many enterprises, construction sites, kolkhozes and sovkhozes. In 1981-1982 many ministries and departments failed to fulfill the comprehensive plans for improving labor safety conditions and sanitary-health measures for a whole number of important indicators.

And it is not only ministries and economic organs that are to blame for this but also the corresponding trade union central committees and councils, which make insufficient use of the rights afforded them and do not do everything in their power to create good and safe working conditions.

A most urgent task for the AUCCTU and trade union central committees and councils is to examine in depth and comprehensively, in conjunction with economic organs and trade union committees, the state of affairs regarding working conditions in every enterprise, construction site, kolkhoz, sovkhoz and organization and to elaborate and implement measures to ensure safe and healthy working conditions and high production standards. It is necessary to raise the workers themselves to resolve these tasks and strictly fulfill their duties and to strive persistently to ensure that every working person is always concerned both about his personal safety and about the safety of his comrades at work.

The further improvement of working conditions must be a very important means of protecting working people's health and improving labor safety and an indispensable factor in strengthening labor discipline, the speaker emphasized.

In their work on intensifying educational activity and strengthening labor discipline trade union organizations are obliged to devote special attention to youth. The problem of getting it to stay in production is particularly acute. Many young workers quit primarily those enterprises where there is an inattentive attitude toward them. But young cadres become well established in production where concern is shown for the young person, where there are various forms of vocational training and of raising the qualifications of youth, where questions of vocational youth orientation are actively resolved and mentorship is developed.

In work with youth trade union committees must cooperate more closely and more actively with Komsomol organizations and devote more attention to students in the vocational and technical education system and to those millions of graduates from vocational and technical schools who are reinforcing the ranks of the working class during the years of this 5-year plan.

In the course of the discussion of the question of strengthening labor discipline in labor collectives and in the press working people and trade union and economic organizations are making many suggestions on how best to organize this work, Comrade Shalayev went on to say. Some suggestions are aimed at improving the existing labor legislation and extending various sanctions against malicious violators of labor discipline.

At many meetings working people have spoken about enhancing the disciplinary responsibility of economic leaders for failing to take measures to strengthen labor discipline, enhancing the role and responsibility of the foreman and team leader on these questions and extending the rights of the labor collectives themselves in questions of encouraging good work and punishing violations of labor discipline.

They also propose taking more strictly into account the state of discipline and working conditions when summing up the results of the socialist competition, and introducing the compulsory attainment of a minimum knowledge of the fundamentals of labor legislation by leading workers.

A considerable proportion of the suggestions made is aimed not only at establishing additional sanctions with regard to violators of labor discipline but also at extending measures of material and moral encouragement for people who have worked long and conscientiously, at getting cadres to stay and creating stable labor collectives.

All the suggestions made will undoubtedly be examined attentively by the AUCCTU and other appropriate organs. At the same time, the speaker emphasized, we already have at our disposal a huge arsenal of means and rights to decisively improve all trade union activity in strengthening labor discipline.

In the struggle against malicious violators of labor discipline trade union organizations and economic organs should make more resolute use of already established measures such as depriving them completely or partially of bonuses, rewards for long service and for work results over the year, additional vacations for a continuous period of work and privilege passes to sanatoriums and rest homes, delaying their turn for receiving accommodation, postponing their vacation until wintertime, and others. That is, trade union committees must make better use of these educational measures against violators of discipline, as well as the possibility, in this connection, of preferentially encouraging foremost production workers.

Discipline and labor efficiency largely depend on how the connection between wages and the end results is ensured. In practice, however, pay and, in particular, the awarding of bonuses are frequently of a clearly leveling nature, treating alike both the honest worker and him who works unconscientiously. Certain economic leaders embark on the path of overtly overreporting the volumes of work fulfilled under the flag of "holding on" to individual workers, that is, they are essentially under the thumb of grabbers. There has recently been an appreciable falling off of attention toward observance of the prescribed procedure for revising production norms and toward the introduction of more progressive norms. We cannot and must not tolerate this, Comrade Shalayev emphasized.

An important role in strengthening labor discipline and preventing offenses belongs to comrades' courts.

The speaker cited examples of the effective and efficient work of comrades' courts in many enterprises, including the Kremenchug Motor Vehicle Plant named for the 50th anniversary of the Soviet Ukraine, the Leningrad Svetlana Association and others.

For a number of years, however, many trade union councils and committees have not devoted proper attention to the work of comrades' courts. It is necessary to give them practical assistance, including in preparing and holding sessions, to enhance the authority and effectiveness of the decisions adopted by them and to involve cadre workers and labor veterans in the work of comrades' courts.

The party and government have provided for a whole number of measures to improve working people's housing and domestic conditions--measures of very great significance for getting production cadres to stay and creating stable labor collectives with a high level of labor discipline. However, many trade union and economic organs make very, very poor use of this potential.

The speaker criticized the work of the Tajik and Turkmen Republic Councils and Dagestan, Gorkiy and certain other oblast councils which underestimate the importance of their work for strengthening labor discipline and improving working conditions.

Work is now going on everywhere to prepare and conclude collective contracts. As of this year, they will be registered in higher economic and trade union organs. The collective contracts must not forget specific measures to get cadres to stay in production and to create conditions for their highly productive labor, as well as measures to strengthen labor discipline.

These days workers' meetings are being held, at which labor collectives discuss their socialist pledges to fulfill the economic and social development plan for 1983. Trade union councils and committees must help collectives also to determine their specific pledges for instilling discipline and order in production and using measures of moral and material encouragement for these purposes.

The speaker went on to speak of the need for a more principled approach to conferring awards in the all-union and republic socialist competitions. The aspirants and, all the more so, the recipients of these awards must really set an example in resolving production, economic scientific, technical social and educational tasks, in discipline and in ensuring safe working conditions, Comrade Shalayev said.

At the CPSU Central Committee November (1982) Plenum the party drew the principled conclusion that if we want to accelerate the steps of our economy's development in all directions, we must raise still higher the activeness of the working masses themselves and conduct organizational and educational work so that every working person understands this simple truth: the plan's fulfillment depends also on his labor contribution.

Many labor collectives in the country have already supported the initiative of Moscow's progressive enterprises to develop the movement for the further strengthening of labor and production discipline under the motto "Honor and glory according to labor" and create an atmosphere of intolerance toward every instance of the violation of labor and social discipline.

Muscovites make this appeal: Rally all elements of labor collectives, assert everywhere the fundamental principle of collectivism--one for all and all for one--utilize the entire force of persuasion in work with violators of discipline, support a comrade who has stumbled with good advice and words, tirelessly assert thrift in our life and struggle against extravagance and an improvident attitude to public property, asserting everywhere and in everything in life the high moral principles of the Soviet citizen.

Supporting the Muscovites' appeal, thousands of other production collectives and workers in scientific establishments, management and public services have adopted high socialist pledges to do shock work in 1983 and strengthen labor discipline. It is the trade unions' duty to further develop in every possible way this powerful movement created by the masses of urban and rural working people as one of the most important directions in the nationwide socialist competition for the successful implementation of the 1983 targets, the plans of the 11th 5-Year Plan and the 26th CPSU Congress decisions.

Comrade Shalayev emphasized in conclusion that our country's trade unions, well aware of their great role and high responsibility for further strengthening socialist discipline and improving working conditions, will work indefatigably, as V. I. Lenin willed them, to create discipline and self-discipline and to strengthen organization, order and businesslike efficiency absolutely everywhere.

CSO: 1828/80

LABOR

AGRICULTURAL LABOR OFFICIAL EXPLAINS NEW WAGE INCENTIVES

Moscow SEL'SKAYA ZHIZN' in Russian 20 Feb 83 p 2

[Article by V.N. Zhurnikov, chief of the USSR Ministry of Agriculture Main Administration for Labor and Social Problems: "The Contract: Payment for Output"]

> [Text] An increasing number of brigades, links and other production subdivisions are assimilating the method of brigade contracts. In their letters, many readers are asking about the features of the work of such collectives and how the principles of material incentive are being applied in them.
>
> The editorial office asked V.N. Zhurnikov, chief of the USSR Ministry of Agriculture Main Administration for Labor and Social Problems, to answer these questions. This is what he said.

Today, grain and cotton, meat and milk, and indeed any other output from the fields and farms, is the result of efforts by many people. The system of organization and material incentive should be in line with the collective nature of labor. It is a question of creating at each farm the kind of economic and organizational conditions that would, on the one hand, stimulate high quality, productive labor, initiative and enterprise, and at the same time affect in a direct way the magnitude of earnings by those who violate discipline and permit carelessness and spoilage in work.

The brigade (collective) contract meets these requirements. Why are conditions created in the contract brigades and links for achieving high final results? Several factors are involved. These collectives have at their disposal all the necessary means of productions, and they carry out most of the work involved in growing assigned agricultural crops through their own efforts. As a result, undefined responsibility for land is liquidated and the responsibility of grain growers for harvests and the efficient use of equipment and fertilizers is enhanced.

The economic idea of the brigade contract is that a collective of workers, most often an entire brigade or link of vehicle operators, is formed to grow a harvest on an assigned tract of land, while the sovkhoz (or kolkhoz) management guarantees the conditions essential for the successful resolution of this task and pays for output in accordance with rates established beforehand.

During the year, wages for the vehicle operators and other workers are paid in the form of an advance. They do not therefore try to increase the volume of work to the detriment of quality, but divide it into "profitable" and "unprofitable" work.

Important social problems are resolved in the contract collectives: a sense of cohesion and comradely mutual help is formed, labor and technical discipline is maintained, and elements of self-management are developed.

This is why the further extension of the collective contract is being put forward today as an important direction in work to increase production efficiency.

It should be recognized that until recently the introduction of this progressive management form was to some extent held back because of shortcomings in the wages system. Thus, the size of the periodic advance did not satisfy many vehicle operators. The size of the rates for output at the farms used to be changed each month, most frequently downwards. These and other shortcomings lowered the interest of farmers in working in the new conditions.

The situation changed after adoption of the CPSU Central Committee and USSR Council of Ministers decrees "On Improving Planning and Economic Incentive for the Production and Procurement of Agricultural Output" and "On Measures To Strengthen Material Incentive for Agricultural Workers in Increasing Output and Improving its Quality." Substantial changes and additions, aimed at increasing the interest of kolkhoz farmers and sovkhoz workers in switching to the brigade contract, were introduced into the existing system.

The essence of these changes is to increase the interest of sovkhoz workers and kolkhoz farmers in improving final results. Rates for wages paid for labor for output used to be determined on the basis of 125 percent of the planned rate for the wages fund. Now, farms have been given the right to increase the plan rate fund up to 150 percent, depending on the level of yields and productivity. Permission has also been given to establish output rates that remain in force for up to 5 years. They can be reexamined only when there are substantial changes in the level of mechanization and production technology. The stability and permanence of the rates constitute an important factor in increasing the interest of brigade and farm collectives in increasing yields and animal productiveness and improving labor productivity.

Another factor involved in rate setting also acts in this direction: rates are now calculated on the basis of output norms. And this indicator is determined for the brigade, detachment or link or each individual worker.

In crop growing, the production norm is established on the basis of normativ yield for agricultural crops, calculated taking into account technology and production conditions and based on yields achieved during the previous 5 years. In livestock raising, the production norm is determined on the basis of technically substantiated norms for rearing animals, taking into account the type of animals and poultry, the degree of mechanization in the labor processes, and the level of productiveness achieved.

There is one more important consideration: during the course of the year the workers used to receive additional wages for fulfilling work within established periods and to a high level of quality, and additional payments for output and bonuses for plan overfulfillment or exceeding an achieved level. Now, permission has been granted to combine all these and other income sources envisaged by existing regulations on wages in order to establish progressively growing rates for output. And the rates will increase as a function of yields achieved and cattle productiveness.

Specialists from the USSR Ministry of Agriculture jointly with the scientists have prepared and sent recommendations to the local level on working out rate scales for output for wages for workers engaged in crop growing. Here are some examples of the rates per quintal for winter wheat, calculated for one particular variant of mechanization and production technology. With a yield of 20 quintals of wheat to the hectare, the rate per quintal is 70.6 kopecks; for 20.1 to 22 quintals per hectare, it is increased to 76.6 kopecks; for 22.1 to 24 quintals, 82.5 kopecks, 24.1 to 26 quintals, 88.4 kopecks, 26.1 to 28 quintals, up to 94.3 kopecks, and for higher yields, 100.3 kopecks. For potatoes, given an increase in yield from 130 to 180 quintals per hectare, the rate goes up from R1.50 to R2.15. Of course, with different technology, the rates are also different.

With the introduction of progressively increasing rates for output, the connection between workers' wages and crop yield and animal productiveness is considerably strengthened. The workers receive an assurance that the more they produce the more they will be paid. It is also important that the application of stable and progressively increasing rates considerably improves the effectiveness of the contract-and-bonus wages system. It is simplified and is more readily understood by workers, and it is more effective.

The rights of brigades, detachments and links in the distribution of sums calculated from the results of production activity have been extended. The labor collective itself now determines the size of these awards for each member, taking into account his contribution to the overall success.

It is also very important to note that the specialists who head the brigades that operate successfully using the collective contract method can be awarded titles, first and second class. Wages bonuses, as a percentage of the salary for the position or of a fixed salary or wage rate, of up to 50 percent and 30 percent respectively, have been established for such leaders.

The question may arise of how current wages for workers in contract collectives are calculated before the production calculations. The advance procedure is established at the kolkhoz or sovkhoz in accordance with the wishes of the farmers and livestock raisers themselves. Advances for tractor drivers and workers engaged in agricultural irrigation work can now be set up in accordance with categories III-VI of the periodic wages rates; and for workers engaged in nonmechanized work, in accordance with catgeories III-V. The size of the advance can also be determined on the basis of the total wages for which provision is made from the technologic charts for work on growing agricultural crops, established for a brigade, detachment or link.

Experience shows that the contract collectives made up of vehicle operators with the same qualifications and having the same conscientious attitude toward the matter work in the most efficient way. As is known, however, there is a cadre shortage at kolkhozes and sovkhozes, and here brigades and links are formed from tractor and vehicle operators having different qualifications. In these cases, the importance of making the correct advances grows.

There can be no stereotype decisions here. It is important first and foremost to consider the opinion of the collective itself. In some cases, as in the link of A.N. Kolesnik from the kolkhoz imeni Frunze in Belgorod Oblast, the vehicle operators expressed themselves in favor of an equal advance. At the kolkhoz imeni Komintern in Ryazan Oblast, the size of the advance was differentiated depending on the kind of work done, namely, field work, repair work, transportation work and work with combine harvesters.

Given that the vehicle operators are differently qualified, it is impossible to permit wage leveling for their labor. It is advisable to set the size of the advance taking into account the individual qualities of the workers and the quantity and quality of their work. This principle is also important when distributing additions and bonuses at the end of the year.

Coefficients of labor participation are also used for calculating more fully the individual contribution to overall success. They are used mainly for the distribution of additions and bonuses for output, but they are also of use when determining differentiation for advances.

To sum up, every opportunity now exists for enhancing the efficacy of material incentives in the brigade contract and for using them extensively in the struggle for a high harvest in the third year of the five-year plan. The ball is now in the court of the managers and specialists at the farms and agrarian-industrial associations.

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CSO: 1828/84

LABOR

AGRICULTURAL LABOR INCENTIVES EXAMINED

Moscow IZVESTIYA TIMIRYAZEVSKOY SEL'SKOKHOZYAYSTVENNOY AKADEMII in Russian No 1, Jan 83 (manuscript received 13 Jul 82) pp 3-9

[Article by M. P. Tushkanov, Chair for the Organization of Socialist Agricultural Enterprises of the Timiryazev Agricultural Academy: "Problems of Material Work Incentives on Kolkhozes"]

[Text] Every farmworker's motivation to increase the yield from fields and the productivity of livestock, to meet high quality standards in performing operations and to obtain a high-quality product, to conserve supplies and save money, and so on, has very great importance among the measures aimed at carrying out the USSR Food Program and ensuring better utilization of land, production capacities, and labor, physical and financial resources. This can be achieved with a properly organized system of material and nonmaterial work incentives.

This article is devoted to consideration of the aspects of material incentives. In the economics literature one encounters differing interpretations of the nature of material work incentives. Most authors see this as a system of varied measures ensuring workers' material motivation. In our view material work incentives should be regarded as the conscious use of a system of material incentives by the state, associations, enterprises and organizations on behalf of realization of the interests of the entire nation, collective interests and personal material interests. We believe that the definition we have given accurately indicates the purpose of the incentive and reflects the organic relationship between the incentives and the interests, which are lacking in the definitions offered by other authors [1, 2, 4].

Material work incentives can be effective under the conditions of socialism only if the indicators, conditions, and sources of incentive funds and the procedure for administering the system are correctly chosen and straightforwardly presented. Scientific organization of work incentives also presupposes correct determination of which worker categories are most crucial to fulfillment of the targeted indicators, what incentives can most effectively arouse the particular worker category to improve those indicators, and, finally, how should all the incentives be combined to achieve the workers' material motivation to increase the efficiency of social production.

Material work incentives occupy a special place in the economic mechanism of the socialist mode of production and act as a connecting element between the plan and the system for management of its fulfillment. It follows that in organizing incentives the point of departure must be the planned final results of production as well as the indicators and rates which are the basis of planning and cost accounting (khozyaystvennyy raschet). At the same time incentives must work toward improvement of the worker's qualifications, his staying at the same enterprise, development of personal subsidiary farming, and so on.

In kolkhoz production widespread use is made of such types of incentives as remuneration for labor, supplemental remuneration and higher remuneration, premiums and supplements, bonuses, etc., in order to achieve higher results from individual and collective work.

An analysis of figures for kolkhozes of the Nonchernozem Zone of RSFSR indicates that in the years of the 10th Five-Year Plan the average annual earning of kolkhoz members rose 25.3 percent, and remuneration per man-day 18.7 percent. The decisions of the 26th CPSU Congress envisaged a 20-22-percent increase of the remuneration of kolkhoz members in the 11th Five-Year Plan. In this connection there is a need to properly determine in what direction the further rise in the level of remuneration should be accomplished and what incentives might be used.

A study of the distribution of the fund for material work incentives on kolkhozes of the Nonchernozem Zone showed that the supplement based on the final results of output did not exceed 4.5 percent of the overall level of the base wage, while the sum total of bonuses for overfulfillment of the production plan for output and for saving on materials and money was 0.83 percent (Table 1). This indicates that on the kolkhozes of this region the main problem is organizing remuneration on the basis of the final results. It is to this aspect of incentives that attention is paid in the respective section of the Food Program, where it is pointed out that "remuneration for high final results of work must become the basic form in encouraging collectives of enterprises and organizations, managers and specialists in all parts of the agroindustrial complex."[1] This problem, as indicated by the experience of the country's advanced farms, can be solved successfully by introducing the work-team contract and by establishing job-bonus remuneration of labor for output in units. When the work-team contract and units with job-bonus remuneration are organized to increase their material interest in higher final results, it is necessary that expenditure of funds for remuneration be organized on every kolkhoz so that unit pay rates for the output of plant growing and animal husbandry can be set on the basis of the planned fund for remuneration according to the pay scale, raised between 125 and 150 percent as a function of the level of yield of farm crops and the productivity of livestock and poultry. It is advisable that in calculating these unit rates one be guided not by the annual plan for output of the product, but by the quota, which should be determined on the basis of the standard yield of crops and standard productivity of livestock.

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[1] "USSR Food Program up to the Year 1990 and Implementing Measures," "Materialy mayskogo Plenuma TsK KPSS 1982 goda" [Materials of the May 1982 Plenum of the CPSU Central Committee], Moscow, Politizdat, 1982, p 62.

Table 1. Distribution of the Fund for Material Work Incentives on Kolkhozes of the Nonchernozem Zone of RSFSR in the 10th Five-Year Plan

Indicator	1976	1978	1980	Average for 1976-1980 Period
Relative to the material incentive fund, %:				
Fund for remuneration of work	97.68	97.76	98.36	97.94
Material incentive fund	2.32	2.24	1.64	2.06
Relative to the fund for remuneration of work:				
Base wage	95.73	95.25	95.85	95.52
Output premium alone	4.61	4.48	4.28	4.49
Supplemental payment and bonuses	4.27	4.75	4.15	4.48
Including those awarded for the following:				
Overfulfillment of the plan for production of agricultural products	0.94	0.76	0.42	0.75
Saving on direct costs	0.07	0.09	0.07	0.08

Determination of the procedure for establishing the time-rate advance to members of the collective during the year and its size is also an important factor. It would seem that a variety of alternative versions are possible here. We will examine below certain alternative versions for workers employed in field operations.

Tractor drivers and machine operators might be paid an advance according to categories III-VI in the time wage rate depending on the models or makes of tractors, agricultural machines and implements assigned to them, and kolkhoz members employed in operations which have not been mechanized might be paid the advance according to categories III-V of the respective wage rates. The principal shortcoming of this version is that the size of the time-rate advance which is established is not linked to the size of the fund for remuneration for those operations which the collective under contract is supposed to perform. As a result these funds may be overexpended.

In order to avoid this it is advisable to set the size of the time-rate advance on the basis of daily rates calculated by dividing the total fund for remuneration (including supplemental remuneration, higher remuneration and the premium for skill rating) by the planned number of man-days. The daily rate of machine operators is determined so as to take into account their qualifications as follows. Assume that the unit has five machine operators, two of whom, including the unit leader, have a Class I skill rating, two persons Class II and one Class III. The fund for remuneration of labor is 6,526 rubles 25 kopecks. It took 987 man-days to perform the work envisaged by flowcharts for all crops. We take the daily rate of the machine operator in Class III as 1, then the rate of a machine operator in Class II can be expressed as 1.1 (10-percent premium), Class I as 1.2 (20-percent premium), and the rate of the unit leader as 1.35 (20 percent for skill rating and 15 percent for supervision of the unit). The entire fund for remuneration of labor will be 1,135 daily rates of Class III machine operators: 987 (1.35 + 1.2 + 1.1 + 1.1 + 1) : 5, and their daily rate will be 5 rubles 75 kopecks (6,526 rubles 25 kopecks : 1,135), 6 rubles 32 kopecks for Class II machine operators, 6 rubles 90 kopecks for Class I and 7 rubles 76 kopecks for the unit leader. The size of the monthly advance is determined for these two variants according to the number of man-days worked in the relevant month.

The size of the advance to tractor drivers and machine operators in the unit is also determined by dividing the fund based on rate schedules, calculated from flowcharts, by the amount of work time (in months) in the period covered by the advance. For example, a mechanized unit of five persons engaged in cultivating farm crops would be assigned a fund for remuneration of labor based on the rate schedules in the amount of 4,550 rubles according to the output quotas adopted on the farm and the wage rates in effect. The period covered by the advance is 7 months. The monthly amount of the advance per machine operator is 130 rubles (4,550/[5 • 7]). It will be equal to 130 rubles for tractor drivers and machine operators in Class III, 143 for those in Class II, and 156 rubles for those in Class I.

Analogously, the daily rate or monthly salary is calculated for purposes of the time-rate advance separately for machine operators on crawler and wheeled tractors.

The amount of the time-rate advance may be established depending on the wage rate category awarded to the machine operator or worker performing operations by hand and with a horse. In this case rates are set annually by using a point system, which makes it possible to take into account the level of skill, the skill rating, length of service, schooling, attitude toward work, etc.

In the first three versions it is advisable to use work participation coefficients (KTU) for better recognition of the contribution of every party to the collective contract or every member of the mechanized unit [3]. The total amount of earnings for the month is determined according to the KTU and the size of the daily rate.

The accruing total amount of remuneration for the product on the basis of results of work for the year (or some other period) is distributed among members of the group in proportion to the total amount of time-rate advance which has been paid.

It is well known that the successful performance of work teams on a collective contract and work units with the job-bonus system of remuneration depends in large part on the timely supply of seed, fertilizer, fuel and lubricants and other supplies and on their opportunity to deal on their own with the main questions related to their productive activity. And although these conditions are stipulated in considerable detail in the agreement which the contract group has with the management of the farm, experience shows that often they are not fulfilled. As a result these subdivisions either dissolve or they work without achieving the results they should.

In spite of the considerable advantages of subdivisions working according to the method of the work-team contract, in growing plants this method of organization and material work incentives is being used in only 8 percent of the production subdivisions of farms, and in animal husbandry the percentage is still lower. In our view the introduction and strengthening of the work-team contract could be promoted by linking the system of material work incentives of specialists on farms introducing the work-team contract and work units with job-bonus remuneration in the growing of plants with the final results of the work of those subdivisions and the plant-growing branch as a whole. The salary of the chief agronomist who heads the plant-growing shop, it seems to us, should depend on the quantity of output it produces and on the quality of that product rather than on the volume of sales, as is the present practice. This would afford him greater material interest in the successful performance of these subdivisions and of the branch as a whole. We will offer the figures that follow to confirm the validity of this conclusion.

In the years of the 10th Five-Year Plan as a whole kolkhozes of the Nonchernozem Zone of RSFSR sold 31.1 percent of the gross grain harvest, 38.5 percent of the potatoes, 7.2 percent of the hay, 95.5 percent of the sugar beets and 84.0 percent of the vegetables. As for other crops, forage crops above all, for all practical purposes they were used entirely on the farm. Consequently, at the present time the chief agronomist is being paid for only a small part of the output produced and therefore has less motivation to fulfill the production plan. From the standpoint of the farm it is important not only to fulfill the sales plan, but also to provide itself seed and fodder in sufficient quantities and to have a reserve stock. Payment for the product produced would compel the farm's agronomy staff to direct all efforts toward increasing the yield of crops and the gross harvest and toward better organization of work teams operating on contract.

The material incentives of workers to improve product quality could be organized by establishing differentiated unit prices for standard and substandard products, for products of varying quality within the standard (with respect to sugar content, size number, and so on), payment on the basis of 1,000 rubles of the value of output at sales prices; differentiated awarding of bonuses to personnel for increasing the relative share of output which is up to grade in the total volume of its production, etc. In the initial stage of organizing the material incentives of kolkhoz members to meet high quality standards in our view it is possible in determining the size of the incentive to limit oneself to that amount which is envisaged for incentives for prompt and high-quality performance of agricultural operations, i.e., in the amount of the income for 1 month or 1.5 months. Funds for those purposes should be allocated from the material incentive fund and from money proceeds obtained from sale of the high-quality products. If workers on the farm are not paid material incentives for prompt and high-quality performance of operations, it would be advisable to combine the funds envisaged by the recommendations for those purposes with the total amount set aside for worker incentives for product quality.

In organizing material incentives for producing a high-quality product it is important to keep up-to-date records on every farm on product quality by subdivisions. This requires adopting a comprehensive system for control of the quality of work and the product, a system that envisages the drafting of enterprise standards and the adoption of standards governing production processes.

It is very important in organizing the material incentives of kolkhoz members to optimally combine money incentives with incentives in kind. An analysis that has been made showed that on the farms of the Nonchernozem Zone of RSFSR not attention is being paid to the latter. The relative share of remuneration in kind (evaluated at purchase prices) in the total amount determined for payment to kolkhoz members averaged 0.96 percent during the years of the 10th Five-Year Plan, and a noticeable tendency for it to decrease was also observed: 1.43 percent in 1976, 0.94 in 1978, and only 0.78 percent in 1980. Over that period there was a substantial drop in the amount of grain and straw which kolkhoz members received in remuneration for their work. Whereas in 1974 kolkhoz members were paid 1,399,200 quintals of grain, which was 1.37 percent of the gross harvest, in 1976 the figures were 1,087,300 quintals, or 0.89 percent, and in 1980 they were 347,900 quintals, or 0.5 percent. The amount of potatoes kolkhoz members received in payment dropped to ten twenty-ninths over that period. In our view use of payment in kind as a material incentive should be viewed from the angle of increasing the motivation of kolkhoz members to develop personal subsidiary farming. That purpose should be pursued not only by increasing the grain, potatoes and forage crops paid out up to the amounts envisaged by the decree of the CPSU Central Committee and USSR Council of Ministers entitled "On Measures To Increase the Material Motivation of Agricultural Workers To Increase Output and Improve Product Quality,"[1] adopted by the May (1982) Plenum of the CPSU Central Committee, but also to issue to personnel in animal husbandry, to tractor drivers and machine operators, and to kolkhoz members employed in other branches of physical production young livestock and poultry by way of remuneration in kind. It would evidently be wise for the regulation on remuneration of work on the kolkhoz to contain a specific section devoted to remuneration in kind; it should deal with the conditions, procedure and amount of this form of payment and should also indicate which workers may receive this kind of payment. Well-organized material incentives of kolkhoz members by means of remuneration in kind will promote development and strengthening of their personal subsidiary farming, which is an important contribution to carrying out the country's Food Program.

The material incentives of kolkhoz members are closely interrelated to the gross income received and the main directions of its distribution. As an analysis has shown, the size of gross income per 100 hectares of plowland varies from kolkhoz to kolkhoz in the Nonchernozem Zone of RSFSR. Considerable fluctuations of this indicator are also observed from one oblast or autonomous republic to another. Whereas, for example, it was 14,500 rubles in the 10th Five-Year Plan for the average kolkhoz in the zone, in Ryazan Oblast it was 11,100, in Yaroslavl Oblast 16,100, in Smolensk Oblast 18,900, in Moscow Oblast 91,200 rubles. Within Moscow Oblast the minimum gross income was one-tenth of the maximum.

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[1] "Materialy mayskogo Plenuma TsK KPSS 1982 goda," Moscow, Politizdat, 1982, p 98.

Distribution of gross income, above all amounts set aside for remuneration of the work of kolkhoz members, also depends on the size of gross income. As we see from Table 2, 30.3 percent more funds are allocated for remuneration of the workday in the farms of Group III than on the farms of Group I. The size of the consumption fund per worker was also greater in this group. At the same time in a number of farms of the oblast considerably more resources were spent from gross income for consumption and less for expansion of production. For instance, the consumption fund per average annual working kolkhoz member was 12.4 percent higher on the kolkhozes of Group III than Group II, the accumulation fund was 4.7 percent lower, and the level of remuneration per man-day was 22.0 percent higher. As a result the amount of capital and the amount of power per kolkhoz member was lower on those farms, and this is adversely affecting the productivity of their labor.

Table 2. Size of Gross Income and Its Distribution Into the Consumption Fund and the Accumulation Fund on Kolkhozes of Moscow Oblast

Indicator	Groups of Farms With Respect to Level of Gross Income Per 100 Ha of Plowland, thousands of rubles I Under 50	 II 50-100	 III Over 100
Gross income, in rubles:			
Per 100 ha of plowland	37,943.0	77,829.0	206,458.0
Per average annual worker	2,498.0	3,155.0	3,386.0
Remuneration per man-day, in rubles	6.04	6.45	7.87
Resources of funds on a per-worker basis, in rubles:			
Consumption fund	2,089.0	2,185.0	2,456.0
Accumulation fund	459.0	856.0	816.0
Relative share of the consumption fund in gross income, %	83.6	69.3	72.5

Only correct distribution of kolkhoz income makes it possible to guarantee a further growth of socialized production and a rise in the prosperity of kolkhoz members on that basis. That is why there is a need to discover the most optimum relationship between the accumulation and consumption funds by analyzing the proportions that have actually come about in distribution of gross income on kolkhozes of the Nonchernozem Zone of RSFSR in recent year by groups of farms with a differing size of gross income. This relationship could be adjusted at the level of the oblast (ASSR) depending on the need of kolkhozes for funds to expand production, for housing and public works construction, and so on, envisaged by plans for economic and social development, consideration being paid to the possibility of kolkhozes obtaining long-term state credits for capital investments. Once it has worked these things out, the staff of the oblast administration can regulate distribution of income on kolkhozes by rayons according to plan, and the staff of the rayon administration can regulate distribution of the income of every kolkhoz.

The relationships established between the consumption and accumulation funds in distribution of gross income as a function of its size will also help to correctly decide the issue of extending to kolkhozes the procedure in effect for sovkhozes of financing with resources from the state budget and to carry out other specific measures to raise the level of farm management, to strengthen the farm's plant and equipment, and to improve the social welfare and consumer services of kolkhoz members.

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LABOR

LEGAL REGULATION OF BRIGADE LABOR EXAMINED

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[Article by N. Orekhov, deputy general director of the Elektrobytmash Production Association, and M. Amigud, chief of a sector of the Sistemproyekt Central Planning, Design and Technological Bureau of the Ministry of Machinebuilding for Light and Food Industry and Household Appliances (Donetsk): "The Legal Regulation of the Collective Forms of Labor"]

[Text] The brigade form of the organization of labor began to be introduced at the Donetsk Refrigerator Plant of the Elektrobytmash Association in 1975. Its use was conducive to the fact that after the completion of renovation in December 1975 the plant achieved the rated capacity in 1978, having kept within the set standard period. During 1975-1980 the increase of labor productivity came to 34 percent, the labor intensity of the output being produced decreased to ten twenty-sevenths, the proportion of the technically sound output norms increased to 93 percent, while their fulfillment stabilized at the level of 102-103 percent (previously they were exceeded by 1.7-fold). The turning over of products by the workers on first presentation increased from 91 percent in 1974 to 98 percent in 1981. The turnover of personnel during the same period decreased from 20.9 to 12.7 percent.

The gained experience is making it possible to broaden the sphere of collective forms of labor. At present they are being used at other plants of the association--the Zhdanov Elektrobytpribor Plant, the Melitopol Bytmash Plant and the Krasnoarmeysk Elektrodvigatel' Plant.

To be sure, when creating brigades it is necessary to take into account the peculiarities of the technology and organization of the specific works. However, there are also general questions which require settlement. Among them there are, in particular, those which are connected with the legal regulation of the activity of brigades, the use of advanced forms of the payment for and stimulation of labor, the participation of the basic production collective in production management and others. The Model Statute on the Production Brigade, the Brigade Leader, the Council of the Brigade and the Council of Brigade Leaders and the Recommendations on the Development of the Brigade Form of the Organization and Stimulation of the Labor of Workers at Machine Building and Metalworking Enterprises, which were recently adopted by the USSR State Committee for Labor and Social Problems and the

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For the purpose of raising the question.

Sekretariat of the AUCCTU, are a significant step in this direction. It must be assumed that these documents will serve as an important help in the dissemination of collective forms of the organization of labor. At the same time the problems of the regulation of the objective process of the extension of the rights of the council of the brigade and the council of brigade leaders, the use of cost accounting forms of the activity of brigades, the distribution of the wage among the workers and others are not completely solved by the indicated standard acts. The activity of large brigades in individual instances comes into conflict with the prevailing legal norms, which have lost their past importance and do not reflect the rights of brigades, the responsibility of labor collectives for the fulfillment of the production assignments, for the state of labor discipline and others.

Let us recall that the brigade is organized in accordance with the principle of voluntariness. The hiring and firing of its members should be carried out with allowance made for the opinion of the council of the brigade. But the mechanism of the implementation of its decisions has not been completely organized, and the administration frequently does not have the opportunity to fulfill the will of the collective. Moreover, the reluctance of individual workers to become a member of a brigade affects the development of collective forms of labor. One must not include such a worker by force in a brigade.

The modern enterprise makes great demands on the personnel. The lack of conformity between the complexity of labor and the level of skills of personnel can lead to the breakdown of expensive equipment, the deterioration of work quality and defective output. The level of workmanship also has a direct bearing on production efficiency. According to the estimates of economists, an increase of skills by just one grade yields on the average an increase of labor productivity by 6-8 percent. Moreover, the creation of consolidated brigades, which work according to the brigade contract method, requires specialists of a new type, and the problem of the mastery by the brigade members of related occupations is placed in the rank of priority problems.

For the development of collective forms of labor, in which the principle of interchangeability is mandatory, it is necessary to improve the training of personnel and to solve the problem of increasing skills in order to cover all the workers of the brigade by instruction, and not only for the purpose of increasing the grade of individual workers. At times the difference in the mastery of skills and work methods, as well as in the extent of the theoretical knowledge of workers, who have the same grade, is quite significant, and for successful work in the brigade and the prevention of conflicts it is necessary also to increase the skills within the existing grade. Thus, in spite of an identical grade, a more experienced worker may differ from a less experience worker by the better quality, range and quickness of the performance of operations.

The reluctance of individual workers to intensify their labor can arise when distributing the wage on the basis of the magnitude of the grade and without allowance made for the coefficient of labor participation. Therefore under the conditions of the acceleration of scientific and technical progress and the changeover of the economy to the intensive path of development the accomplishment of the tasks on the development and introduction in production of fundamentally new equipment and materials and advanced technology and the systematic increase of skills. which were stipulated by the 26th CPSU Congress, is becoming one of the conditions of the successful fulfillment of the outlined plans.

The need for the increase of the effectiveness of the work of all the links and the forms of the education and training of personnel, the perfection of the training and the improvement of the skills of personnel on the job directly follows from the Basic Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990. The duties of the workers on increasing their skills in general form are stipulated in the regulations for the workers and employees of enterprises, institutions and organizations. Article 17 of the Fundamentals of Labor Legislation of the USSR and Article 33 of the RSFSR Labor Code, in which inadequate skill is regarded as a cause of the lack of conformity of workers to the occupied position or the job being performed and by virtue of this as a basis for the cancellation of the labor contract on the initiative of the administration, indirectly indicate them.

There are also other norms which stimulate the increase of the occupational level of workers. For example, Article 188 of the RSFSR Labor Code stipulates that in the case of the increase of skills categories or job promotion the administration is obligated to consider how successfully the worker and employee do in on-the-job training. However, due to the lack of norms, which set down the duty of workers and employees to improve their skills, directly in the Fundamentals of Labor Legislation of the USSR and the labor codes of the union republics and due to the lack of instructions in the law on disciplinary and public pressure on workers in the case of the nonfulfillment of measures on the systematic increase of skills this duty is considered not a legal, but a moral duty, which is performed according to one's personal desire. Taking into account that the rights and duties of workers and employees with respect to the increase of skills are a component of labor law relations, while the development of the brigade forms of the organization of labor requires the ability to perform related operations and to utilize working time more completely, it would be advisable to establish in the all-union law the legal duty of workers and employees to increase their skills and to participate actively in the corresponding measures, which are being implemented in this direction by the administration and trade union organization of the association or enterprise.

Let us examine the questions which concern the use of the coefficient of labor participation. At present there is no uniform procedure of determining the specific portion of the wage, which should be subject to adjustment with allowance made for the coefficient of labor participation. At times the value of the coefficient of labor participation and the procedure of its use are different even at a single enterprise. Thus, some brigades extend the influence of the coefficient of labor participation to the basic and additional portion of the wage, others limit the sphere of its effect to the extra piece-rate earnings in excess of the amount of the brigade wage rates and to all types of bonuses. At other enterprises the coefficient of labor participation is not taken into account when establishing the increments for occupational skills, the additional payments for multiple-machine service and so on.

Since there are no precise criteria of the use of the coefficient of labor participation when evaluating the contribution of specific workers to the overall results of labor, the members of the brigade, who disagree with the decrease of their wage because of the inadequacy of their contribution to these results, in practice are deprived of the opportunity to institute disputes on the payment of wages in the commission for labor disputes, the factory-plant and local committee of the trade union and the court.

In order to reduce to a minimum the subjectivity of the evaluation of the contribution of each member of the brigade, it is expedient to draft a special statute on the use of the coefficient of labor participation. At the Donetsk Refrigerator Plant the councils of the brigades are guided by such a statute. The model characteristics of the work of the members of the brigade and the amounts of the increase or decrease of the coefficient of labor participation, which correspond to them, are cited in it. For example, in the case of a high level of the fulfillment of the production assignments, the use of advanced labor methods, work in related occupations and the efficient use of equipment and accessories, which ensures an output greater than the average brigade output, the coefficient of labor participation is increased to 0.5; in the case of a weak intensity of labor, which finds expression in the lag behind the average rates of collective labor, it is decreased to 0.25. The decisions of the council of the brigade are made official by a certificate.

At different enterprises the problem of the application of the coefficient of labor participation to the entire wage or a portion of it has also been solved differently, although it also hardly has a specific local or sectorial nature. Not only the procedure of distributing the brigade wages requires legal sanctioning. It is necessary to establish the right of every worker to appeal to the commission for labor disputes, the factory-plant and local committee and the People's Court against the independent or sanctioned decision of the brigade in an area which concerns him personally.

Items on the initiative of individual brigades to introduce, by consent of the workers, collective material liability for the state of labor discipline and even for the observance of the rules of socialist society during nonworking time are being published in the press. The members of the brigade voluntarily refuse the bonus from the material incentive fund when there are violations of labor and production discipline or public order in the collective. Such obligations cannot be deemed legitimate owing to direct conflict with the prevailing legislation. In particular, in conformity with Article 5 of the RSFSR Labor Code all the terms of contracts on labor, which worsen the status of workers and employees as compared with labor legislation or otherwise are at variance with this legislation, are invalid. From the point of view of law the consent of the workers does not play a role in this case.

The orientation of collectives toward the achievement of high qualitative results, the increase of production efficiency and the introduction of elements of the contract is becoming more realistic with the organization of labor on the basis of the principles of cost accounting. The task of further improving the cost accounting of associations and production enterprises is posed in the decisions of the 26th CPSU Congress. In our opinion, it can be successfully accomplished, if along with the cost accounting of enterprises as a whole the cost accounting of its components, and first of all the brigades, is improved. But what does "the cost accounting of brigades" mean? Just the unification of people is inadequate. Work on a single order, so that the wage would be common, is needed. It is also necessary to solve other problems, including to specify for the collective the workplace, a plan and a system of management. The activity of the brigade should be regarded as the work of a partially self-contained production unit.

The development of the brigade contract in industry has been accompanied by certain difficulties. As is known, the cost accounting method presumes the establishment of the day-to-day economic independence of the subdivisions and the elaboration of a system of material liability for the results of labor. So far such a system has not been created at the level of brigades.

At times the concepts "the brigade contract" and "brigade cost accounting" are used too broadly. Frequently the organization of brigades is identified with the introduction of the brigade contract, although the latter is a unique form of activity under the conditions of internal cost accounting, when a contract, in accordance with which each of the parties assumes specific obligations and ensures their fulfillment with the simultaneous establishment of mutual material liability, is concluded between the administration and the brigade. And whereas in construction we can speak of the existence of elements of the contract and cost accounting, with reference to industry the substitution of the indicated concepts is permitted most often.

At present there is no complete clarity in the question, what kind of legislation--economic or labor--determines the nature of the agreements on the brigade contract. In our opinion, such a form of basic cost accounting as the brigade contract contains traits of both economic and labor law. The further extension of the activity of cost accounting brigades requires the corresponding specification of the legal norms. In our opinion, it is necessary to elaborate a standard or model agreement or statute on the brigade contract in industrial sectors. The existence of such a document would facilitate for enterprises the proper organization of the interrelations with brigades. The procedure of settling the disputes, which may arise between one brigade or another and the administration, should be revised.

The carrying out of economic operations on a cost accounting basis presumes the increase of the responsibility of the primary labor collectives. The possibility of using measures of material liability for negative results of the activity, including for the harm caused to the enterprise for the joint performance of operations, which are involved with the storage, processing and transportation of valuables or their use in production, in that instance when it is impossible to demarcate the material liability of the workers, is the most important facet of cost accounting. For examples of the use of collective (brigade) material liability exist not only in trade, where it is the most widespread, but also in the sphere of production.

In 1969 the model Statute on the Liability of Workers Who Handle and Use in the Process of Production Precious Metals, Gems, Synthetic Corundum and Items Made From Them was approved by the USSR Ministry of Finance and the USSR State Committee for Labor and Wages.[1] In conformity with the statute the collective (brigade) material liability for the shortage or above-standard losses (except those which are due to unforeseen disturbances of the technological process) of precious metals and gems, synthetic corundum and items made from them can be introduced wherever this is required in accordance with the conditions of production. The need for the organization of brigade work with collective material liability is determined by the manager of the enterprise, institution and organization in consultation with the factory

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1. See BYULLETEN' GOSUDARSTVENNOGO KOMITETA SOVETA MINISTROV SSSR PO VOPROSAM TRUDA I ZARABOTNOY PLATY, No 7, 1969, p 39.

(plant) local committee of the trade union. The brigades are created by the manager of the enterprise, institution and organization in consultation with the brigade leader and the members of the brigade. The contract on collective (brigade) material liability is signed by the administration, the brigade leader and all the members of the brigade. In the case of the withdrawal of individual workers from the brigade or the admission of new workers to it the contract, as a rule, is not drawn up anew.

However, the indicated norms are special and concern a narrow group of enterprises. The practical experience of other enterprises shows that some conflict exists between the justified aspiration of the administration of associations and institutions to achieve the complete indemnification of the harm and the prevailing legislation. Such lack of coordination on a question, which is so important for the running of a profitable business and for the implementation of the cost accounting principles of work, is explained first of all by the nonconformity of a number of general norms of the prevailing legislation to the present development of the collective forms of the organization of labor in industry.

The general bases of the liability as to property of workers for materials and items are established by the Statute on the Material Liability of Workers and Employees for the Harm Done to an Enterprise, an Institution and an Organization, which was approved by the Ukase of the Presidium of the USSR Supreme Soviet of 13 July 1976.[2] In conformity with Article 7 of the statute for the damage or destruction through negligence of materials, semimanufactures and items (products), including during their production, workers and employees bear material liability in the amount of the harm done through their fault, but not more than two-thirds of the average monthly wage. The material liability for the damage or destruction through negligence of tools, measuring instruments, special work clothing and other items, which were issued by the enterprise, the institution and the organization for use by the worker, is established in the same amount.

Material liability in the full amount of the harm, in accordance with Paragraph 4 of Article 10 of the statute, occurs in those instances when the harm was caused by a shortage, the deliberate destruction or the deliberate damage of materials, semimanufactures and items (products), including during their production, as well as of tools, measuring instuments, special work clothing and other items, which were issued by the enterprise, the institution and the organization for use by the worker.

These norms, which presume the demonstration of the blame of the worker for the damage or loss of property, are entirely acceptable and ensure the safety of physical assets in the case of their receipt by the worker and use in the performance of individual independent operations of the production process.

The decree of the USSR State Committee for Labor and Social Problems and the Sekretariat of the AUCCTU, which was adopted in 1982, on the approval of the list of jobs, in the case of the performance of which collective (brigade) material liability can be introduced, broadens somewhat the possibilities of using collective material liability. The Model Contract on Collective (Brigade) Material Liability was also approved by the indicated decree.[3] However, only operations on the assembly, installation, adjustment and repair of electronic and radio equipment, electrical engineering and radio instruments and systems, as well as on the production of precious metals, banknotes and all types of tickets, coupons and subscriptions, which are intended for settlements with the population for rendered services, are included in the list of jobs which involve brigade material liability in industry. Consequently, in the other numerous spheres of industrial production, in which the brigade method of the organization of labor is being used extensively and labor operations are performed jointly by the workers, from the point of view of the prevailing legislation collective (brigade) material liability is impermissible.

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[2] See VEDOMOSTI VERKHOVNOGO SOVETA SSSR, No 29, 1976, Article 427.

The increase of the scale of production and the introduction of the brigade organization of labor are changing the nature and forms of the organization of industrial production. In machine building, for example, in the production of complex electrical household equipment the labor process is of a flow line and conveyor nature, tens and hundreds of workers are engaged in the attendance of individual conveyors. Thus, at the Donetsk Refrigerator Plant the length of the conveyor lines is about 10 km. It is natural that the use of the Statute on Material Liability under such circumstances was complicated, since in the case of such an organization of the production process and the performance of jobs by the brigade the workers do not receive and cannot receive raw materials, semimanufactures or materials for production needs in an individual manner. It is becoming more difficult to reimburse the material harm to the administration, there is no opportunity to differentiate the losses caused by each of the members of a brigade which works together.

Most often such a situation forms at the enterprises, at which the production process encompasses two or three shifts, each of which continues the work of the preceding shift, that is, when there are multiple-skill multistage brigades. Given such a nature of production the physical assets are turned over not to one worker, but to the brigade as a whole; a large number of people, who have easy access to the physical assets, work under the supervision of the administrative technical personnel. In case of their careless attitude toward materials, items or other property considerable harm can be done to enterprises.

However, even in the case of the timely detection of the harm it proves impossible to determine the liability of individual members of the brigade. Therefore, in spite of the shortage of parts, assemblies and semimanufactures, which occurs as a result of their damage, loss or even thefts, the administration frequently refrains from suing for the loss of materials. Difficulties also arise when it has been established, who caused the harm, but the administration was not able to obtain the consent of this worker for the withholding from his wages of the amount for compensation for the harm.

In accordance with the prevailing legislation, in the case of the refusal of the guilty party to compensate for the harm or in the absence of his written consent to the withholding of the value of the damage from his wages the administration is obliged to go to court. It is possible to imagine what difficulties this involves, if you consider that during a single workday several tens of reports on defective

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3. See BYULLETEN' GOSUDARSTVENNOGO KOMITETA PO TRUDU I SOTSIAL'NYM VOPROSAM, No 1, 1982, pp 3-8.

output are compiled at the average-size industrial enterprise, and the amount of damage usually does not exceed 3-5 rubles.

Such an procedure does not ensure an effective drive for the safety of socialist property, leads to the unjustified writing off of considerable amounts of shortages at the expense of the cost of industrial products and does not promote the implementation of one of the most important requirements, which was advanced in the decisions of the 26th CPSU Congress--the tightening up of the policy of economy at the works, the elaboration and implementation of measures on the elimination of losses in industry, construction, transportation, agriculture and other sectors. Such a practice is also not conducive to the implementation of the measures outlined by the party on the increase of the interest of the primary production collectives in the reduction of the nonproductive expenditures and losses in production and the utmost strengthening of cost accounting in all the links of the economy.

In order for the brigade form of the organization of labor to become truly the main form already during the current five-year plan, it is necessary to solving the corresponding problems, by using along with organizational means legal means of the consolidation and development of collective forms of labor.

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CSO: 1828/74

LABOR

FORTHCOMING LABOR SAFETY MEASURES OUTLINED

Moscow EKONOMICHESKAYA GAZETA in Russian No 7, Feb 83 p 2

[Article by the Scientific and Organizational Administration of the USSR State Committee for Science and Technology summarizing the scientific-technical program entitled "Developing and Introducing Methods and Means of Guaranteeing Further Improvement of the Health and Safety of Working Conditions in the Economy": "Working Conditions and Workplace Safety"]

[Text] The 26th CPSU Congress defined as one of the principal tasks in the eighties to accomplish profound transformations in a most important sphere of people's lives--their work, to improve working conditions and make work lighter, and to provide broad opportunities for highly productive and creative work.

The Basic Directions for the Economic and Social Development of the USSR Over the Period of 1981-1985 and up to the Year 1990 provided for creation of the most favorable conditions for highly productive work and for strengthening its creative character; an all-out reduction of manual, semiskilled and heavy physical labor; and improvement of workplace health and safety standards. The scientific-technical program entitled "Developing and Introducing Methods and Means of Guaranteeing Further Improvement of the Health and Safety of Working Conditions in the Economy" is indeed aimed at performance of that task.

This program, which is to be carried out in the 11th Five-Year Plan, has a good foundation. In the previous 5-year period thousands of plants, factories and underground mines underwent reconstruction, which improved working conditions for 20 million persons. The capacity of facilities for the sanitary hygiene of the workers was increased by 12 million through expansion or new construction. The network of medical facilities at enterprises for treatment, prevention and convalescence increased. The production accident rate dropped 24.2 percent from 1975 and the occupational disease rate 29 percent. Work time losses charged to production accidents dropped almost 16 percent.

For All Sectors

The scientific-technical program has outlined for the 11th Five-Year Plan 180 assignments containing more than 700 specific measures to reduce the accident rate and occupational disease rate and to improve the sanitary hygiene, work schedules and conditions for rest and recreation of the workers. The intersectorial character of the program should be noted; it embraces all sectors of the economy.

More than 350 scientific research and project planning and design organizations, VUZ's and industrial enterprises in 79 ministries and departments are taking part in carrying it out. The All-Union Central Scientific Research Institute for Workplace Health and Safety of the AUCCTU is the organization responsible for administrating the program.

The following directions have been singled out in the scientific-technical program:

i. methods and means of ensuring the safety of equipment and industrial processes;

ii. safety techniques and equipment related to operation of power installations;

iii. combating the noise of equipment and vehicles;

iv. ways and means of combating the vibration of production equipment, vehicles and agricultural machines;

v. effective new personal safety equipment;

vi. scientific sound methods and equipment for monitoring static electricity and protection against it;

vii. prevention of the adverse effect of physical and nervous and emotional overexertion and hypokinesis;

viii. standards and requirements for various hazardous and harmful production factors and also methods, criteria and evaluation of their interrelated and combined effect on man;

ix. methods of managing workplace health and safety and evaluating the socio-economic effectiveness of improving working conditions;

x. methods and means of making facilities fireproof and explosionproof.

The program calls for drafting documentation embodying technical standards and methods to regulate requirements concerning the safety of operating and newly designed production equipment and machines and also the drafting of recommendations concerning selection, calculation and design of the means of comprehensive protection against accidents. This will make it possible even in the design stage to monitor the maintenance of safe working conditions for operating personnel. Hundreds of project planning and design organizations are in need of this kind of standardization of the means and methods of ensuring the safety of production equipment and industrial processes.

A faster supply of equipment for automatic protection of personnel against hazardous and harmful factors is envisaged in the 11th Five-Year Plan. Beginning in 1986 it will be prohibited to manufacture machines and machine tools whose operation involves monotonous work or conditions difficult for human health without furnishing means of mechanization and automation.

By 1 January 1983 machinebuilding ministries were required to set forth lists of suitable equipment, having previously cleared it with USSR Minzdrav [Ministry of Health], the AUCCTU, USSR Goskomtrud [State Committee for Labor and Social Problems] and GKNT [State Committee for Science and Technology], as well as with the principal consumers. Unfortunately, not all the ministries and departments fulfilled this important obligation on time. So far such materials have not been prepared by Minkhimmash [Ministry of Chemical and Petroleum Machinebuilding], Mintyazhmash [Ministry of Heavy and Transport Machinebuilding], Minenergomash [Ministry of Power Machinebuilding], and Minstroydormash [Ministry of Construction, Road and Municipal Machinebuilding]. Yet it is at their enterprises that quite a bit of the equipment that needs to be furnished effective guards and safety interlocks and devices for mechanization and automation is manufactured and indeed also used.

Reliable Protection

The share of problems related to the emergence of new lines of scientific-technical progress is growing more and more in the total amount of scientific work being done to create safe equipment.

The reliability of protecting man against emissions of radiation is making it possible for our country to build large-scale nuclear engineering installations and nuclear power stations for peaceful purposes. The program calls for creating scientific foundations for the safe use of new sources of radiation.

Use of laser technology, which has found widespread application in medicine, optics, ultralong-range communications, and holographic devices is an example of effective solution of the problems of the safety of new technology. Powerful lasers are being created for welding, strengthening and cutting metal. Along with their unique properties and advantages over other types of equipment used for similar purposes, laser devices may represent a definite threat to the health of operating personnel. That is why the sources of hazards are being studied and necessary safety measures developed even while the particular laser technology is being created.

In the course of carrying out the program much has been done in the field of vibration protection of various machines and equipment. Considerable personnel and resources have been concentrated on solving this problem. About 90 different models and sizes of vibration-safe hand-operated machines have been designed and put into series production. The working conditions of millions of workers have been improved. Our country is the world leader in the research and development of equipment of this kind.

A substantial reduction of the case rate of vibration disease has been achieved. But a sizable number of workers in 15 occupations are still exposed to vibration. After all, equipment is being installed in shops whose higher speeds and capacity involve higher vibroactivity. This can be avoided if during project planning, construction and reconstruction calculations are made of building fabrications and provision is made wherever necessary to install what is required to protect work stations against vibration. A normative document on this matter has been prepared--the chapter entitled "Design of Fabrications Experiencing Dynamic Stresses" of SNiP [Construction Standards and Rules] P-14. But USSR Gosstroy (first deputy chairman A. Borovoy) has dragged out the process of its approval.

In connection with the creation of ultralong-distance power transmission lines with ultrahigh voltage, there are plans to draft normative documentation for human protection in performance of jobs at substations and near LEP [long-distance power transmission lines] with voltages between 500 and 1,150 kilovolts.

The assignments of the program envisaged the development of scientifically sound methods and means of monitoring static electricity and protection against it. Their absence is now the reason for a 2-3-fold increase in the weight of equipment, and liquid, solid and loose materials which generate static electricity are moved and processed at low speeds. The problem will be solved with the production of antistatic agents for washing fluids, highly effective neutralizers, and automatic systems for ensuring safety against electric static in the process of high-speed filling of vehicle tanks.

An important task targeted in the program is creation of optimum systems and devices maintaining the allowed microclimate in industrial buildings with respect to air and heat. The urgency of this work results from the sizable operating costs related to ventilation. They amount to almost 30 percent of total costs for building maintenance. Equipment with devices to protect against dust and gas will be put into production for industrial processes involving the release of harmful substances. Explosion-proof fans are being designed with an output up to 100,000 cubic meters per hour to move gases and dust.

Unfortunately, the present level of science and technology still does not make it possible to remove people entirely from certain shops with a harmful and polluted atmosphere and to provide a full guarantee of workplace safety for a number of production operations. That is why personal safety equipment has to be improved.

New and lighter antigas and general-purpose respirators protecting the respiratory organs against ammonia, sulfurous gas, hydrogen chloride and sulfuric acid fumes at low temperatures, and also new antiaerosol respirators for the machinebuilding, mining and coal mining industries, and self-contained breathing apparatuses for welders are making their appearance in accordance with the program. New types of specialized clothing are being developed which afford protection against high and low temperatures and the effect of petroleum, petroleum products, oils, fats, alkalies and acids for workers in ferrous metallurgy, the petroleum industry, the gas industry and the shipbuilding industry, as well as for construction workers and agricultural workers. A high-strength cold-resistant material for specialized footwear uppers, new nonwoven materials to provide warmth, and hard hats have been created for lumberjacks, oil field workers and construction workers working under the conditions of the Far North.

Rigid Requirements

In 1981-1982 140 measures in the scientific-technical program were to be carried out. They have all been accomplished. In other words, during that period 140 designs were developed and technical requirements and normative documents were drafted to improve working conditions and workplace health and safety.

For instance, VNIIkonditsioner has created explosion-proof centrifugal fans with an output of 40,000 cubic meters per hour to move dust, gases and air mixtures. Minstroydormash will begin their series production in 1984. The Kemerovo "Karbolit" NPO [Scientific-Production Association] has released experimental runs of low-phenol phenol formaldehyde resins. Reduction of the phenol content of the substance will make working conditions considerably healthier at many enterprises of the chemical industry. Technical specifications have been defined for the special clothing of farmworkers, petroleum workers and construction workers.

At the same time the program is not being carried out successfully in all directions. More than half of the machinery used in growing plants, forging and pressing equipment, all the yarn-twisting machines of synthetic fiber enterprises, and most looms and woodworking machines are still too "noisy." Minstankoprom [Ministry of Machine Tool and Tool Industry] (deputy minister A. Vasil'yev), Minsel'khozmash [Ministry of Tractor and Agricultural Machinebuilding] (deputy minister V. Shabanov) and Minlegpishchemash [Ministry of Machinebuilding for Light and Food Industry and Household Appliances] (deputy minister B. Pryadchenko) must speed up performance of the measures of the program to reduce the noise of the machines and units they produce.

Certain models of excavators, crawler and tower cranes, and construction and road machines in which the cabs are not completely tight and work stations are uncomfortable are being delivered to construction sites. Not enough attention is being paid to meeting present-day requirements of ergonomics in its products by the Kovrov Excavator Plant (chief engineer Yu. Aref'yev) or the Moscow "Stroymash" Association (chief engineer I. Rostogayev).

The Voronezh Plant of Heavy Mechanical Presses (director V. Golovin) is not furnishing its eccentric presses with robots and manipulators as outlined in the program. The contact interlock for protecting the hands has turned out to be very capricious on the Model "PVG" presses of the association "Orlotekmash" (general director V. Zhestkov).

Sizable space is given in the program to developing standards of maximum and optimum physical loads and also optimum work and rest patterns for the workers. Diagnostic criteria and preventive measures have been revised concerning fatigue and overexertion of operators. At this point the creation of the system of workplace health and safety standards regulating the output of new machines, equipment and industrial processes has by and large been completed.

Improvement of production and work discipline is taking on particular significance. As experience is showing, breaches of procedure or the lack of procedure may offset to a considerable degree the efforts made to improve workplace health and safety. It is staunch discipline and every worker's sense of responsibility that make the new technology safe to a decisive degree.

The workingman has always been and remains at the center of our party's attention. One of the fundamental features of socialist production distinguishing it from capitalist production is the creation of the best possible conditions for the creative and highly productive activity of the worker and to protect him from accidents and occupational diseases.

The trade unions stand on the watch for enforcement of requirements concerning working conditions and workplace safety. They take direct part in carrying out all measures in this field and monitor enforcement.

Along the entire chain from the work team to the top administration of the sector the comprehensive systems approach mus. be taken to improving working conditions and workplace health and safety.

Expenditures for Labor Safety Measures that are Provided by Collective Agreements (in billions of rubles):

1975	1980	1982
1.6	2.2	2.4

Decrease of industrial accidents in relation to 1975 (in %):

1975	1980	1981	1982
100	76	71	66

7045

CSO: 1828/67

EDUCATION

ACADEMICIANS DISCUSS TRAINING OF ROBOTICS PERSONNEL

Minsk SOVETSKAYA BELORUSSIYA in Russian 4 Feb 83 pp 2-3

[Article by Honored Figure of Science of the Belorussian SSR and Corresponding Member of the Belorussian SSR Academy of Sciences Professor V. Tkachev, rector of the Belorussian Order of the Labor Red Banner Polytechnical Institute: "Who Will Control the Robots?"]

[Text] In recent years the area of the use of microprocessors, robots and entire robot systems has increased considerably, their role as an important component of the technological equipment for the automation of both basic and especially auxiliary operations and difficult, monotonous, harmful and dangerous jobs has increased. Shops and plants, which are completely made up of manipulators and robots and are basically self-contained robotized production, have appeared.

In the Basic Directions of USSR Economic and Social Development for 1981-1985 and the Period to 1990, which were adopted by the 26th CPSU Congress, the task is set: "On the basis of the use of the achievements of science and technology to develop the production and to ensure the extensive use of automatic manipulators (industrial robots), built-in automatic control systems with the use of microprocessors and microcomputers, to build automated shops and plants...." For the accomplishment of this task the considerable increase of the output and the introduction in production of robotic systems are planned during the 11th Five-Year Plan. The robots planned for development will be assigned to a considerable extent to second-generation industrial manipulators, which not only can operate in accordance with a rigid program (like first-generation robots), but also have the ability to adapt to external conditions. The development of robotics has a special relationship to Belorussia, where such sectors of the national economy as electronic engineering, the radio industry, precision and special instrument making and machine tool building should be developed as the decisive sectors at present and in the future to 2000. In the republic during this five-year plan 1,100 industrial robots have to be introduced at the enterprises of the union ministries and about 300 automatic manipulators have to be introduced at the enterprises of republic ministries.

A comprehensive program of scientific research, experimental design and technological work in the area of the development of automatic manipulators has been drawn up and approved in the republic in conformity with the decree of the party and the government. In it the need for the training of highly skilled specialists in robotics for the assurance at all enterprises of the complete automation of production processes on the basis of the extensive use of manipulators with programmed control is especially pointed out.

The process of training such personnel has a number of specific features, which stem from the fact that the sector itself--robotics--is a concentration of the modern achievements of science and technology. Only the creatively trained engineer, that is, the engineer of broad specialization, can work successfully in this sector. The question arises: What should this specialist be like? What should the graduate of a technical higher educational institution be like today, during the age of the scientific and technical revolution?

It is clear that this is first of all a scientific and technical worker, an engineer in the modern understanding (an engineer-researcher, scientist-applied worker), who in the process of training at a higher educational institution or further training in a special faculty has received a good philosophical, physicomathematical, electronics and economic education. Moreover, I would like to emphasize with all clarity that in the case of any increase of the basic training the graduate of a higher technical educational institution should remain first of all an engineer, if you wish an engineer-researcher. During the era of the scientific and technical revolution precisely the engineer is the main character in the process of transforming science into a productive force of society.

Robots are a combination of advanced scientific and technical thought with the humanization of technical achievements. Precisely they force us to think about the fact that when receiving a higher technical education and when designing and operating machines we often do not direct proper attention to the human, humanistic aspect of education and technical progress. The problem of the biological education of the modern engineer, especially in the area of robotics, should be examined separately. For many biological aspects and concepts, especially questions of genetic engineering, can and should in the future find their analogues, their solutions in the designing of robots of the future and the not very distant future.

Therefore the specialists, who design, produce and operate robots and robotic systems, should combine two aspects of training: basic university training, which includes philosophical, general scientific and general technical training, and the vocational training of a higher technical educational institution, which includes specialized engineering and research training. Such specialists can be successfully trained only at the technical higher educational institutions, which were born of the scientific and technical revolution--technical universities, which combine the advantages of a university and a technical higher education. The training of such specialists should be changed over from informational, extensive training to a creative, intensive path. This should be a narrowly specialized engineer with a basic university training.

Particular attention in the basic training of engineers of broad specialization should be devoted to physics and mathematics. In general the question of what place physics and mathematics should hold in the training of engineering personnel at the present stage is quite interesting and merits separate examination. For even among the workers of the higher school this question for the present is not being settlement unequivocally, which is also leading to great organizational and other difficulties in our republic while developing the Belorussian Polytechnical Institute in the direction of a technical university. However, it seems to us that as a result of the extensive discussion hardly anyone disputes the fact that basic training in physics and mathematics is the basis of a modern higher technical education. As to physics specifically, at higher technical educational institutions applied physics should receive extensive introduction in education on a fundamental, theoretical basis. This will enable the graduates of higher technical educational institutions to easily change their methods of work in the areas of science and technology, which are more and more rapidly becoming differentiated, to easily change over in the process of their work to the new areas of technology, to which the scientific and technical revolution has given birth, and, in our case, to work successfully on the development and use of robots and robotic systems.

Precisely on the basis of these principle starting in 1976 the Belorussian Polytechnical Institute began to develop rapidly in the direction of a technical university, using the experience of such leading higher educational institutions in this respect as the Moscow Physical Technical Institute, the Moscow Institute of Engineering Physics and the Moscow Higher Technical School imeni Bauman and elaborating and developing its own forms and methods of instruction.

Along with the traditional construction and machine building directions the new physical technical direction appeared at the Belorussian Polytechical Institute. By now nine specialties, which correspond to the new sectors of science and technology, are offered.

Of the new faculties which were opened the Engineering Physics Faculty, which was created in 1977 and in February 1983 is graduating its first students after 5.5 years of training, as well as the Faculty of Robots and Robotic Systems are the ones which conform most to the requirements of the scientific and technical revolution. It was created in January 1983 and already has students of the first through third years, who are specializing in various directions of the production, technology and use of robots and robotic systems.

At present in the Engineering Physics Faculty 10 doctors of sciences are productively performing educational, scientific and methodological work on the training and education of scientific and technical personnel. Their skills composition is very interesting and noteworthy: four physicists, two mathematicians, two chemists and two doctors of technical sciences.

The list of five specialties, in which instruction is carried out in this faculty, is very characteristic, because it reflects the universal nature and multilevel nature and presumes a thorough material science, technological, design, mathematical and special training. In particular, they are "The Technology of Special Materials of Electronic Engineering," "Semiconductor and Microelectronic Instruments," "Applied Mathematics," "Optical and Optical Electronic Instrument Making" and "The Technology of Optical Instrument Making."

The indicated set of specialties, especially the last three, require the thorough training of their graduates in the area of the use of microprocessors and robotic systems.

The opening of the Faculty of Engineering Mathematics with three specializations in the area of computer designing and the optimum mathematical methods in the designing and development of technological processes is proposed in 1984.

It is obvious that the training of specialists at the Physical Technical Department of our institution and especially in the three faculties indicated above should be carried out jointly and should be ensured to a considerable extent by the same professors, instructors and scientific personnel.

At present for the training of personnel in robotics the USSR Ministry of Higher and Secondary Specialized Education has specified one new specialty, "Robotic Systems," and a number of specializations in robotics within traditional specialties. There are, for example, "Automatic Manipulators and Industrial Robotized Complexes" within the specialty "The Automation and Complete Mechanization of Machine Building," "The System of the Programmed Control of Industrial Units and Robotic Complexes" within the specialty "The Electric Drive and the Automation of Industrial Units" and others.

Today there are already four specializations at the Belorussian Polytechnical Institute. As to other specializations, the need to offer at the Belorussian Polytechnical Institute the specializations in robotics, which correspond to them, does not raise doubts and the appropriate decision of our scientific council has already been made. The Belorussian Polytechnical Institute is the leading organization for the republic program of scientific research, experimental design and technological work in the area of robotics. The sectorial scientific research laboratory "Industrial Robots," which is engaged in scientific studies of versatile automated works (on the basis of robotic complexes) and built-in automatic control systems with the use of microprocessors, is successfully operating here.

With respect to its personnel and scientific potential, in combination with the industrial and scientific potential of Minsk, the Belorussian Polytechnical Institute can and should become a multiple-discipline educational, scientific and coordinating center of the republic in the area of robotics, including the use of microprocessors. Objective grounds exist for this. A unique structural combination and the diversity of industrial enterprises, which produce a very wide range of products: from the first electronic and electronic mechanical clocks in the country to BelAZ large-tonnage heavy trucks, have formed in Minsk. Many enterprises have within them design bureaus and design and technological bureaus or other very developed scientific and technical subdivisions. The Belorussian Polytechnical Institute has established with the majority of these enterprises close educational and production ties, which in a number of instances have been officially registered within educational-scientific-production associations. Base chairs of the institute or affiliates of the corresponding chairs exist at a number of enterprises and scientific research institutes.

The training of specialists in robotics will be developed in four directions, which reflect the interests of the national economy of the republic: robots for the production of electronic engineering items, robots in machine building, in machine tool building and in special and precision instrument making.

The MTZ-BPI, BelavtoMAZ-BPI, the BelOMO-BPI and Belglavenergo-BPI Educational-Scientific-Production Associations, as well as 12 affiliates of chairs at the works and at scientific research institutions are being used successfully for linking training and scientific research with production. The creation of such an association at the Granat Scientific Production Association is necessary in the near future.

We are planning to carry out the training and further training of scientific and technical personnel and engineers in robotics not only at the new faculty, but also in the Physical Technical Department as a whole. Other faculties, including the traditional faculties, are also taking part in the solution of these important problems. Thus, in our oldest Machine Building Faculty the Chair "The Technology of Machine Building" is organizing the specialization "The Technology of Robotized Production." New sections on industrial robots and robotic systems are being introduced in the series of lectures on automatic machines and the automation of production processes, which are being delivered for students of practically all the specialties of the institute.

The need for the organization of the comprehensive retraining of engineering, scientific and technical personnel in robotic specialties should be noted. It is expedient to open at the Belorussian Polytechnical Institute a special faculty or center for the further training of mechanical engineers, electrical engineers and civil engineers in the area of automatic manipulators and robotic systems.

It is also necessary to dwell on such an important question as the willingness of all the sectors of the national economy to use extensively manipulators, microprocessors, robots and entire robotized systems and complexes. An individualized approach both to the sectors of the economy and to specific enterprises within one sector or another is necessary. And it is a question not only of the supply of personnel, although it is one of the main ones and, of course, should be settled in advance (with a lead, which depends on the specific conditions at one enterprise or another) or at the same time, but in no event should follow the process of the robotic retooling of production. It is not difficult to imagine what enormous costs with respect to time, materials and even morale production would incur in case of the violation of this sequence. Some managers are acquiring large robotic complexes, but in a while after their start-up they cease to operate with the necessary productivity or in general stand idle.

Therefore the questions of the preparation of one works or another, one technological process or another for the extensive use of robots and robotized systems should be settled in advance and, of course, with the assistance and decisive participation of those specialists who in the future will ensure the control of these systems. That is, the training of personnel in this sector of the national economy should be advanced and should lead those "needs," which Gosplan accumulates in accordance with the existing canons: first production, and then its supply with specialists. Here the principle should be a different one, which is dictated by the very essence of the scientific and technical revolution: the personnel determine and decide "the quantity and the quality," the share of robotized production in the sector and at the specific enterprise. Such a principle should force people to understand that the curricula of the training in robotics should be flexible and dynamic and should be clearly specified for one region or another, one higher educational institution or another, so that the training of specialists would come ahead of the production of the robots and robotized systems themselves.

Hence the demands on the flexibility, dynamicity and material supply of special faculties (or even combined centers) for the further training of engineering personnel in this direction also become clear.

A number of specific practical problems, on the solution of which the quality of the work and its end result depend, immediately arise in connection with the organization of the further training of engineering and technical personnel. It is a question first of all of the structure of the center, its personnel composition, the scientific and educational laboratory base, the curricula and work programs. The Belorussian Polytechnical Institute proposes the following solution of the posed problem.

It is advisable to specify the structure of the center for the comprehensive further training of engineering personnel in robotics as an intersectorial triple association "the higher educational institution--the Belorussian SSR Academy of Sciences--production."

It is advisable to carry out the further training of engineering personnel at the center in accordance with an individual curriculum, which will make it possible to take into account the specific nature of the development of the given sector in the region and to train the engineers with allowance made for the specific goals and tasks and the specific needs. The specialties of the two faculties, which were recently created at the Belorussian Polytechnical Institute, can serve as the basis for the elaboration of the individual curriculum of the further training of engineering and technical personnel.

It is necessary for the sectorial ministries, which will be the main users of the specialists, to envisage the financing and the allocation in 1983-1985 of limits for equipment for furnishing the educational laboratory and scientific base of the center. Success in the organization of the center for the further training of engineering and technical personnel and the complete supply of personnel in robotics and its quality depend on the effectiveness of the collaboration between the cooperating parties of the association.

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TRAINING OF SKILLED LABOR FOR SIBERIA, FAR EAST

Vocational, Technical Schools

Moscow SOVETSKAYA ROSSIYA in Russian 22 Oct 82 p 1

[Article: "The Vocational and Technical School Beyond the Urals"]

[Text] The importance of Siberia and the Far East for the further development of the national economy and the increase of the well-being of the Soviet people is truly exceptional. There is an abundance of everything here: timber, petroleum, gas, coal, ores. There are only not enough hands. Those to whom the main burden of the development of the natural resources of the rigorous region falls. That is why, as Leonid Il'ich Brezhnev emphasized, these resources must be taken with the minimal expenditures of manpower resources--not by number, but by skill.

Particular responsibility rests with the state system of vocational and technical education of the eastern part of the RSFSR, which already in the immediate future is called upon to become the main source of the skilled regular labor force. Today it has 460 vocational and technical schools and technical schools, which annually send to plants and construction projects, boreholes and mines, kolkhozes and sovkhozes more than 250,000 of its students. Practical experience convinces us that precisely these boys and girls later on constitute the nucleus of production collectives, display an example of great labor productivity, thrift and discipline and quickly master new equipment and advanced work methods. But 250,000. Is this a lot or a little?

According to the estimates of economists, the system of vocational and technical education is meeting far from completely the personnel demands of enterprises, its development lags behind the rate of economic growth of Siberia and the Far East. The training of labor reserves not only for heavy and light industry, but also for trade, public dining and personal service requires expansion.

The fulfillment of the extensive program of the further development of agriculture of Siberia and the Far East--the most important component of the Food Program--in many ways depends on how many and what kind of personnel the kolkhozes and sovkhozes are provided with. It is necessary to see to it that young people could acquire the occupations of machine operator, stock breeder and field-crop grower not far, far away, but in their native regions. However, for the present, unfortunately, there are also not enough secondary vocational and technical schools of this type.

The plans of capital construction of facilities of vocational and technical education of the eastern rayons of the republic are still being poorly fulfilled. And this is one of the main causes of the situation which has formed. It is possible to explain the passivity of the ministries of the electrical equipment, automotive and radio industries, which during the 10th Five-Year Plan did not cope with the outlined program, only by the lack of foresight. Considerably fewer new places for students than was planned were also created by the Ministry of the Timber, Pulp and Paper, and Wood Processing Industry and the Ministry of Power and Electrification. Annually 14,000 young workers, who have been trained in other regions of the country, are sent to the Ministry of Construction in the Far East and Transbaykal Regions, the young ministry itself has not yet begun the construction of schools. An especially alarming situation has formed in Tyumen and Chita Oblasts, Khabarovsk Kray and the Buryat ASSR. Irresponsibility is the result of the lack of control. The soviets of people's deputies and the administrations of vocational and technical education are not displaying proper persistence in solving these problems.

In spite of the instructions of the party to train skilled workers in good time, especially for the regions of Siberia and the Far East, schools of vocational and technical education are being built simultaneously far from everywhere during the construction of large production associations and the enterprises at their base. But life itself requires the appropriate vocational and technical schools and technical schools to be opened 1.5-2 years before the placement of the main works into operation. At first they can train construction workers, and then, as the need arises, operators. It seems that such an approach to the matter would completely conform to the tasks of speeding up the development of the productive forces of the eastern regions.

But this is only one aspect of the problem. Thousands of cities and settlements have appeared in the once sparsely populated, remote region. A larger and larger number of boys and girls are proudly calling themselves native Siberians and Far Easterners. It is unnecessary to prove that they are the most reliable, stable and, hence, best reserve of the working class and the labor peasantry in the regions beyond the Urals. At the same time according to statistics only a third of the graduates of the eighth grade of the general educational schools of the region enroll in vocational and technical schools, where all the conditions exist for the mastery of a specialty which one's native city or rayon needs. But at many vocational and technical schools it is now possible to receive a full-fledged secondary education! What is this leading to? The migration of young people is increasing--after graduating from school a portion of them immediate go to higher and secondary specialized educational institutions of the European part of the country and afterwards also frequently stay there to work. The planning organs of the country and the republic need to give serious thought not only to the rate of the further development of the system of vocational and technical education in the east, but also, which is no less important, to the improvement of the coordination of the admission of students to vocational and technical schools, tekhnikums and the ninth grade of general educational schools.

Of course, every Soviet individual is free to choose an occupation in accordance with his desire and aptitude. But will this choice be sufficiently well considered and objectively verified, if a boy or a girl has never had time to try his hand at work at a neighboring combine or sovkhoz and has not gone about the land of one's fathers as workers? The cooperation of the general educational school and the

Sverdlovsk Engineering Pedagogical Institute, the only one in the country, and two or three specialized faculties at other higher educational institutions are engaged in the training of instructors. Is one, be it an excellent, higher educational institution enough? The opening of new and the expansion of operating secondary specialized and higher educational institutions for the training of engineering and pedagogical personnel, the creation of a branched system of the increase of their skills in the regions of Siberia and the Far East--this is the means which will make it possible to strengthen reliably the pedagogical collectives of the vocational and technical school.

The economy of the eastern regions is progressing rapidly, relying on powerful equipment and advanced technology, the latest achievements of domestic science. All this cannot but affect the content and nature of the education of young workers. The leading role here belongs to the scientific research and methods centers of vocational and technical education, to the institutions of the USSR Academy of Pedagogical Sciences and to sectorial scientific research institutes. It is important in any event for the thorough analysis of the prospects of the development of the sectors of the national economy of the region, the nature and content of the labor of the worker of tomorrow to precede their recommendations. During training it is necessary to afford boys and girls the extensive opportunity for the independent attendance of machines and machinery and to acquaint them with future ones from models and special simulators. This is an immediate task of not only the All-Union Association of Production Enterprises of the USSR State Committee for Vocational and Technical Education, but also the ministries and departments, which are interested in the future reinforcement of workers of the enterprises beyond the Urals.

Siberia and the Far East today are the largest territorial production complexes, which rest on a mighty power base. An important role in the implementation of the economic strategy of the party belongs to them. One of the basic conditions of this is the creation of a permanent working class contingent, which is inconceivable without the development and strengthening of vocational and technical schools and technical schools. The expansion of the training of manpower reserves in the eastern regions is a matter of the greatest, first of all economic, importance for the entire country.

Training of Specialists

Moscow SOVETSKAYA ROSSIYA in Russian 25 Dec 82 p 1

[Article by M. Mikhal'kov, SOVETSKAYA ROSSIYA correspondent for Chita Oblast and the Buryat ASSR: "Siberia Needs Specialists"]

[Text] Does it seem like a long time ago that the talk about the shift of the center of the economic development of the country beyond the Urals, to the eastern regions, sounded like a task? A task of the immediate future, but the future. Now we can speak with good reason about the major achievements of the no less considerable more distant future as well. The rapid rate of the extraction of hydrocarbon raw materials in the Western Siberian petroleum and gas regions, the cascade of power structures on the high-water rivers of Eastern Siberia, the development of the metallurgical and coal mining industries, the petrochemical and textile sectors, the mining of nonferrous metals and precious minerals, the changeover of vocational and technical school in the pursuit of a uniform vocational guidance policy, which meets state interests, should be strengthened in every possible way, the continuity of the specialization of the prevocational instruction of school children and the training of personnel at local vocational and technical schools should be observed more precisely. This question should always be in the purview of local party and soviet organs.

In the majority of oblasts, krays and autonomous republics of Siberia and the Far East the situation cannot but cause alarm. For example, in Novosibirsk Oblast on 1 October the plan of recruitment for the urban vocational and technical schools had been fulfilled by only 70.7 percent, for rural vocational and technical schools--by 53 percent. The situation is different among the people of Tomsk, who coped honorably with the assignment. At the same time the check of the RSFSR Committee of People's Control, which was made at the request of the editorial board in Amur Oblast, showed: some administrations of vocational and technical education are achieving the fulfillment of the reporting indicators by means of small affiliates of the schools, while the fine educational complexes, which cost the state not just 1 million rubles, are half empty. Real, and not imaginary, success is being achieved only where the oblast, city and rayon party committees regard the training of the new generation of workers as their priority concern.

Under the conditions of an acute shortage of manpower in Siberia and the Far East the granting of a number of preferences and the introduction of special programs with an abbreviated training period at technical schools for evening 10th grade students, who have mastered the rudiments of the chosen occupation at interschool educational production combines, as well as for demobilized soldiers merit support. Moreover, it is necessary to increase the opportunity to continue one's education and occupational advancement for the workers who went to work, bypassing the vocational and technical school. There are an especially large number of these people among the boys and girls, who are coming here at the call of Komsomol from all corners of the country. Evening (shift) vocational and technical schools and the evening (shift) departments of day secondary vocational and technical schools should become a help for them.

The Collegium of the RSFSR State Committee for Vocational and Technical Education has approved measures on the development and strengthening of the network of vocation and technical education in Siberia and the Far East until 1985. The construction of new educational complexes, the renovation of old ones and their supply with the latest textbooks and equipment are being planned. The measures have been submitted for approval to all the interested ministries. The strict fulfillment of what has been planned--that is what is needed now.

A detachment of 35,000 instructors and experts of on-the-job training work at the institutions of vocational and technical education of Siberia and the Far East. In their overwhelming majority they are highly skilled, able educators. However, there is also a considerable number of those, who came to vocational and technical schools directly from production and, while being an outstanding specialist of their occupation, are not experienced in the fine points of teaching and training. The advice of a comrade and the sharing of experience, of course, help--however, especially at first, they have a hard time. At the same time in the region there are only 12 industrial pedagogical tekhnikums, which, moreover, do not cover the entire range of working class occupations which are offered by the schools. The agricultural production to an industrial basis, the construction of a transportation artery many kilometers long--the Baykal-Amur Railway Line--and much, much more have already made this region the base region for the increase of the economic might of the country.

The importance of Siberia is increasing with each year. It is possible to consider 1990 a future date, but it would be more accurate if we would begin to direct our attention to it as an immediate planning boundary. On this basis economists and mathematicians of the Siberian Department of the USSR Academy of Sciences with the use of computers have calculated several versions of the development of the economy of Siberia. These calculations specified the place of such an enormous territorial complex within the entire national economic complex. The general, scientifically sound conclusion is as follows: the rate of development of Siberia already now should be greater than the all-union rate.

It is not enough to say that the implementation of the outlined plans will require the creative effort of labor collectives. This goes without saying. A no less important thing lies in something else: without an adequate number of highly skilled specialists in all spheres of production, transportation, science, culture, health service, personal service and so on the accomplishment of the task will be difficult, or simply impossible.

It is well known that there are not enough specialists of the most diverse occupations in Siberia. In every oblast, every kray and every autonomous republic the critical specialties in any sectors of the national economy can be calculated today to an accuracy of one.

How is the need for highly skilled specialists to be met in such a vast territorial region which is diverse in its specialization?

It should have been expected that in the Sibir' multisectorial and comprehensive scientific program, which was drawn up by the Siberian Department of the USSR Academy of Sciences and has now become a component of the comprehensive program of the scientific and technical progress of the country, a place would be found for a section on the availability, use and required number of highly skilled specialists in the region. Unfortunately, its originators confined themselves to the problem of scientific personnel.

Much informational material has been gathered by the USSR Ministry of Higher and Secondary Specialized Education for the country as a whole, including Siberia. But it will be processed and analyzed, and the corresponding conclusions and recommendations will emerge--for the present it is unknown what kind. In such a situation in a number of ministries and departments when distributing and assigning specialists at times they do not base themselves on objective factors, but act out of subjective considerations.

Experience attests: without the purposeful training of specialists from among the local population one cannot solve the personnel problem properly. In the same Chita Oblast there are 3 independent higher educational institutions and 21 secondary specialized educational institutions. Affiliates of the Khabarovsk Institute of Railway Transportation Engineers, the Novosibirsk Institute of Soviet Cooperative Trade, the Irkutsk Agricultural Institute have been opened. It would seem to be a considerable number. The matter lies in the proper, from the point of view of state interests, use of the trained specialists. An odd system of assigning the graduates, which defies logic, up to now has been in effect. It is possible to explain it by the poor knowledge by the Ministry of Higher and Secondary Specialized Education and other ministries and departments of the true situation with personnel locally and by elements of subjectivism in the making of decisions on assignment. Annually one graduate in four from the Chita higher educational institution and nearly one specialist in three, who has received a technical education, are forced to leave their native areas and to go at times more than 1,000 km from home.

A similar thing is also happeneing with the graduates of other Siberian higher educational institutions. It is happening while there is a shortage of not only highly skilled specialists, but also manpower in general.

The counterflow of specialists, who are being sent to Siberia, is not making up for the losses, for, as a rule, the young reinforcement of personnel from the cities of the European part of the USSR is not kept here for a long time, or else simply does not appear at the place of assignment. Statistics also confirm this. Whereas on the average for the RSFSR there are 33 specialists with a higher education per 1,000 inhabitants, in Krasnoyarsk Kray there are 29, in the Altay--25, in Tyumen and Kemerovo Oblasts--21, in the Transbaykal region--17, while in the Tuva ASSR--only 13 specialists. One would like to know, how long will planning organs turn a blind eye to the personnel "transfer," which is doing nothing but harm to the state? And when, finally, will the plans of the training and assignment of young specialists take more completely into account the needs of practice? New plants and entire sectors, which cannot do without workers of new occupations, are appearing in the region, while the syllabuses are being changed over unpardonably slowly.

The question of the attachment of the personnel of Siberia and their efficient distribution is being raised not for the first time. The attention of many ministries and departments and the state planning committees of the republic and the country has been attracted to it. In one of his latest responses B. F. Antropov, deputy chief of the Culture and Education Department of USSR Gosplan, acknowledged that "the training of personnel at local higher educational institutions and tekhnikums for the present still does not entirely meet the requirements of the intensive and comprehensive development of the productive forces," in connection with which the ministries and departments "are obliged to take most completely into account the specific needs of the sectors and individual regions, without allowing the counter assignments of specialists of the same kind."

It would seem that the correctness of these conclusions and decisions should find practical confirmation, especially as the interdepartmental and interrepublic distribution of young specialists is in the hands of USSR Gosplan. In reality nothing of the sort is happening. Last year of the 528 graduates of the Chita Polytechnical Institute 110 were sent beyond the Siberian region, while the proportion of those who remained in the Transbaykal region was negligible. A similar thing also happened this year.

The party and government are concerned about the development of the productive forces of Siberia and the creation of the conditions for the training and attachment of specialists in the national economy. In the past 10 years 14 new higher educational institutions have been opened in Siberia and the Far East, affiliates of polytechnical and economics institutes have been created in a number of cities. On the construction route of the Baykal-Amur Railway Line educational advice centers have been created in Ust-Kut and Shimanovsk, in the settlements of Urgal, Zvezdnyy, Magistralnyy, Ulkan and Alonka.

The number of higher educational institutions is increasing, but then the material and technical base of Siberian institutes is being developed extremely slowly. The area of educational laboratory buildings is less than half of the standard area, there are only 6.8 m^2 per student of day instruction. This is also explained in part by the fact that the sectorial ministries and departments, and the Ministry of Higher and Secondary Specialized Education itself still do not always assume such concerns as the allocation of assets for construction. The capital investments are not being backed by material resources, higher educational institutions are being poorly supplied with the necessary instruments and equipment. Unfortunately, locally they also do not always treat with the proper understanding the needs of the higher school, by not regarding new construction projects as projects of paramount importance.

The untying of the personnel "knot" places particular responsibility on local party and soviet organs with respect to the elaboration in each oblast, kray and autonomous republic of a specific goal program for the complete and quickest possible meeting of the needs for specialists of the necessary occupations. And it is necessary to consider the orderly recruitment for higher educational institutions and tekhnikums among the local population as task No 1.

The USSR Ministry of Higher and Secondary Specialized Education intends in the immediate future to draw up a long-term program on the expansion of the training of specialists at the higher educational institutions and tekhnikums of Siberia and the Far East. The eastern regions, which are rich in natural resources, but are experiencing an acute shortage of personnel of the highest skill, require a more attentive attitude toward their needs on the part of planning organs, ministries and departments. And not in words, but in deed.

Quality of Training

Moscow PRAVDA in Russian 9 Feb 83 p 3

[Article by V. Sayushev, first deputy chairman of the USSR State Committee for Vocational and Technical Education: "The Siberia Order"]

[Text] The scope of Siberian operations and plans is attracting thousands of boys and girls. Here they are finding both the romanicism of trailblazing and the opportunity to put themselves to the test and to show their worth in a difficult and glorious matter.

In this rich region the most modern equipment and technology are being used, advanced labor methods are being applied. Therefore today, as never before, well-trained personnel, who along with the enthusiasm of youth would also have great occupational culture, are needed here.

Practical experience convinces us that the most effective means of offsetting the shortage of personnel is the increase of the quality of their training, first of all at educational institutions of the system of vocational and technical education. The graduates of the vocational and technical school are distinguished by their consciousness and discipline and willingly go wherever thorough specialized knowledge and skill are especially needed. As compared with workers, who acquired their specialty on the job, their output and quality of labor are higher, their skills increase more rapidly.

Taking these circumstances into account, more and more economic managers are relying on young people with diplomas of vocational and technical schools. And today they predominate at many very large enterprises of Siberia and the Far East.

Visit, for example, Norilsk. The local mining and metallurgical combine is closely connected with the city vocational and technical schools and has joint contracts with each one. And in them there is stipulated in detail, what it is necessary to do for the quantitative and qualitative improvement of the training of the young reinforcement. They are also treating carefully the rising generation at the Kuznetsk Metallurgical Combine and a number of kolkhozes and sovkhozes of the Transural region.

These facts are a result of the development of the system of vocational and technical education in Siberia and the Far East. During the past five-year plan more than 1.5 million skilled workers were trained by it. The Yakutsk ASSR, Amur, Kamchatka, Tomsk and a number of other oblasts began the five-year plan with the exceeding of the set plans of the admission of young people to the schools and their graduation from them.

It would seem that there is something to rejoice over. However, there are facts which are arousing serious thoughts. Thus, in Siberia the number of people with a secondary education, who are employed in the national economy, is less than on the average for the RSFSR. About what kind of saving of manpower resources is it possible to speak in such a case, if there are not enough highly skilled workers who are graduates of vocational and technical schools?

Consequently, it must be admitted: the development of the vocational and technical school in the region already lags behind the growth rate of the economy. Let us take, say, the coal industry. As a whole for the sector 20 percent of the additional need for skilled workers is being met by the schools, while in the basins of Eastern Siberia and the Far East only 16 percent is being met. At the same time the set dates of the placement of educational institutions into operation are not being observed.

The network of vocational and technical schools, which train personnel for construction, power engineering, the chemical, electrical equipment, petroleum refining and petrochemical industries, is being expanded beyond the Urals extremely unsatisfactorily. The situation is no better in light industry, in which a number of large enterprises are experiencing an acute shortage of well-training workers, but have been forced to exist without vocational and technical schools. And it is entirely inexplicable, how the personal service of the Tuva ASSR, Magadan and Sakhalin Oblasts are doing without the corresponding vocational and technical schools.

The fulfillment of the Food Program in the East of the country also requires the improvement of the supply of specialists of the broad type to kolkhozes, sovkhozes and other enterprises which belong to the agro-industrial complex. However, so far the rural schools of Krasnoyarsk Kray, Buryatia and Chita Oblast have a weak material base. For this reason only half of them have been converted into secondary schools, while for the RSFSR as a whole 75 percent have been converted. The rural vocational and technical school is practically not growing in Irkutsk Oblast and Altay Kray. But meanwhile estimates show: there should be a school in every large agrarian rayon.

The most urgent questions of the activity of the system of vocational and technical education are settled much more rapidly and easily, if they are treated with understanding locally and have not been assigned to the category of minor questions. The experience of Maritime Kray is significant in this sense. For many years the bureau of the kray committee of the CPSU jointly with the kray soviet executive committee has been contributing to the strengthening of the educational production base of vocational and technical schools and the increase of the quality of the education and training of adolescents. And here are the results: during the past five-year plan eight secondary and five technical schools were opened, while the number of young workers with a secondary education, who graduated, increased by more than 2.5-fold.

Much will also be done in the Maritime region during the current five-year plan. The construction of 10 educational complexes, which will make it possible under unfavorable demographic conditions to increase the number of skilled personnel who graduate by another 21 percent, is called for by the planning organs of the kray. At the same time the number of occupations, which boys and girls can master at vocational and technical schools, is being increased.

Scientifically sound standards of the development of the system of vocational and technical education for all sectors and regions are necessary for the efficient use of the productive forces. At the same time the construction of schools should become a component of the basic directions of progress in each sector, while the participation in it of enterprises and organizations, cities and rayons, oblasts and republics should find reflection in the plans of economic and social development.

The decline of the increase of manpower resources during the next 10 years is making greater demands on the coordination of the admission of the graduates of the 8th and 10th grades for various types of educational institutions. Today 2.6-fold more young people are studying at the tekhnikums and higher educational institutions of the eastern part of the country than at vocational and technical schools. Such a ratio does not conform to the real needs of the economy and to the actual need of social production for specialists of different skills.

There are several means for improving the supply of Siberia and the Far East with skilled staffs of workers. The main one of them is: to expand here the network of vocational and technical schools, by attracting local young people to them. For the present it is necessary to use more actively the interoblast and interrepublic redistribution of the graduates of schools. But the special-purpose training of boys and girls from other regions, and first of all Central Asia and Transcaucasia, where there are abundant manpower resources, in the basic specialties in accordance with the requests of ministries and departments should be organized for this.

There is the order of USSR Gosplan to envisage when designing large production capacities the construction of the corresponding vocational and technical schools. Moreover, the school should be a priority start-up project. Then its graduates will become participants in the birth of the enterprise and will master the equipment and technology already at the stage of installation and adjustment, which will help them to work efficiently starting with the first days of industrial operation.

The most important conditions of the successful development of the system of vocational and technical education beyond the Ural Range is the availability of engineering pedagogical personnel. The main source of the supply of schools with experts of on-the-job training is the 12 industrial pedagogical tekhnikums which are located in this region. The training of engineer-educators has been organized at the Barnaul, Irkutsk and Novosibirsk pedagogical institutes. The students of the Sverdlovsk Engineering Pedagogical Institute, the first graduation of which will be held next year, will be assigned to Siberia and the Far East.

However, the need for personnel is being far from completely met. Young specialists, after working for 3 years, frequently either leave for more inhabited regions or transfer to a different job. The point is that the base enterprises and vocational and technical schools have not yet learned to value each young specialist and are not creating normal housing and living conditions for them.

It is possible to offset the shortage of pedagogical personnel by enlisting in the training and education of young people production innovators and the most experienced tutors. These people are strong in work pedagogy, while the knowledge they lack is being made up for in the system of the increase of skills, at schools of advanced know-how and in short-term courses. They are acting in accordance with such a principle, for example, in Kemerovo Oblast. Its experience merits extensive development in the eastern krays and oblasts.

The rapid increase of the economic potential of Siberia and the Far East is integrally connected with the problems of the training at the educational institutions of vocational and technical education of skilled workers of the broad type and in related occupations. This will make it possible to provide a significant increase of labor productivity and, hence, to offset the shortage of personnel, which the enterprises and organizations here are experiencing.

The quantitative and qualitative changes occurring at the vocational and technical school should be backed by the improvement of its work at all levels. But the scientific analysis of the named and a number of other problems and the improvement of the management of the comprehensive development of vocational and technical education in the region with allowance made for local peculiarities are necessary for this. Meanwhile many problems are being solved in much the same way as in the European part of the country, still insufficiently efficiently and creatively. Moreover, in recent times the organizing work of the local organs of the USSR State Committee for Vocational and Technical Education has been relaxed.

The means of overcoming the shortcomings have been specified in conformity with the instructions of the CPSU Central Committee and the Soviet Government. It is a question first of all of linking the work of the organs of vocational and technical education more closely with the personnel needs of the national economy and of improving in every possible way the educational and training process at vocational and technical schools. And one of the main conditions of success is the close alliance of the schools and the base enterprises and the interested participation of the ministries in the improvement of the training of the regular labor force. This is necessary everywhere, but is especially urgent in the regions of Siberia and the Far East.

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